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Original Articles

KIDNEY AND URETERAL STONE

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CHICAGO

Kidney-stone surgery affords an admirable opportunity for good team work. In my clinic the cystoscopic work and the catheterization of the ureters is in charge of Dr. H. L. Kretschmer and the *x*-ray work is in charge of Dr. H. E. Potter, to whom belongs much of the credit of this contribution. I am thoroughly convinced that in this difficult field of surgery the best results can be obtained only by such a division of labor.

In 1897 I used the *x*-ray for the first time in this country in the successful diagnosis of kidney-stone. Since that time I have operated in more than 70 cases of kidney-stone, using in practically all the *x*-ray to confirm the diagnosis. I desire to present very briefly some of my conclusions gained by this clinical experience.

The etiology of renal calculus is not as yet fully determined. Reasoning from analogy, however, it is most probable that kidney-stones, like gall-stones, are formed as the result of a low-grade mycotic infection. We might go a step further and state that the germ forms producing this infection are probably colon and typhoid.

Renal calculi sometimes run a silent course, giving rise to no symptoms. Large calculi, which have apparently produced little injury to the organ, are sometimes found in the kidney, post-mortem, in cases in which a careful, clinical history fails to show any symptoms referable to the stone. This harmless character is not so common with kidney-stone as with gall-stone. We know that a large majority of gall-stones give rise to no disturbance or such slight disturbance that their presence is not suspected. My impressions are that, although this may also be true in the case of kidney-stone, it is the exception.

CAUSES OF SYMPTOMS OF KIDNEY-STONES

Kidney-stones cause symptoms especially in two ways: (1) by favoring infection or (2) in a purely mechanical way by obstructing the ureter. Large stones seldom produce symptoms in a mechanical way, but usually by favoring infection. A stone the size of an egg in the pelvis of a kidney, if not accompanied by infection, may cause no distress. An accompanying infection, however, can produce more or less constant pain of a dull, aching character; or an acute attack of colic due to obstruction of the ureter with pus and blood or by swelling of its mucosa and obliteration of its caliber.

What is the cause of pain in a renal colic? Is it the passing of a stone through the ureter? I think that I can answer this question now fairly definitely.

1. The cause of a renal colic is a greatly increased intrarenal tension due to a plugging up of the ureter.

2. The passage of a stone through the ureter does not of itself cause any pain at all. I have now had the opportunity of determining these facts in several cases. I shall cite as the best example the following case:

A young woman of 22 or 23 had an attack of kidney colic, due to stone the size of a robin's egg. This was removed successfully, but later this kidney became the seat of tuberculosis and it was removed. Several years later she was brought to the hospital suffering from complete anuria. She

Fig. 1.—From skiagraph showing stone in the right kidney. Skiagraphed during suspended respiration.

was in great pain; had not passed a drop of urine for several days. I at once made a nephrotomy under nitrous oxid anesthesia and drained her solitary kidney. The pain was immediately relieved by the drainage. An *x*-ray picture the next day showed a stone in the upper ureter about the size of a coffee-bean. Four or five days later an *x*-ray showed the stone in the lower ureter and ten days later, without any pain or symptoms, she passed the stone per urethram.

In all this passage through the ureter after the kidney was drained the stone gave rise to no pain whatever. This and similar cases have taught me that intrarenal tension is the cause of kidney colic and not the passage of the stone through the ureter.

Another interesting fact is taught by this and similar cases, namely this: that the passage of the stone is not due to *vis a tergo*, but to the peristaltic action of the

muscle fibers of the ureter seeking to pass the foreign body along. In the majority of my 70 cases the symptoms were sufficiently clear to make a clinical diagnosis of stone fairly easy, i. e., kidney distress, kidney colic, pus and blood in the urine, all of these pointing to a kidney lesion and leading to the use of the *x*-ray and the establishing of a positive diagnosis by this means.

ATYPICAL CASES

In our series, however, we have had a number of cases in which the symptoms were atypical and the diagnosis difficult. In three or four cases the attacks were thought to be attacks of appendicitis. In 1,500 appendix operations I have in at least four cases found either at the time of the operation or later that the cause of the attacks was kidney or ureteral stones. In several cases the attacks simulated gall-stone attacks and in one case we had the reverse of the experience and found attacks

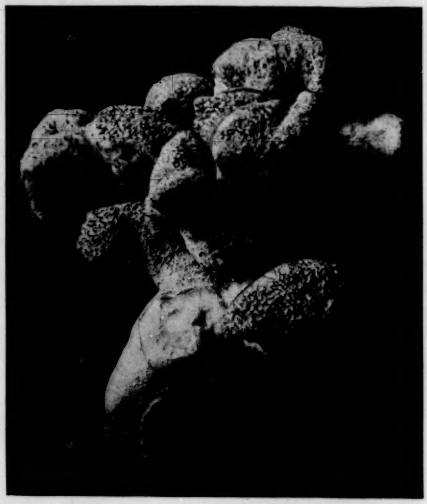

Fig. 2.—Large kidney-stone.

which we regarded as kidney colic attacks were, in fact, gall-stone attacks, and an *x*-ray shadow which we regarded as due to the presence of a stone in the kidney was that of a single gall-stone covered with a thick coating of lime salts.

Several of our cases have been sent with the diagnosis of ileus or intestinal attacks, and in at least two cases the patients were treated for years for stomach trouble until the *x*-ray revealed the renal cause of the disease.

As an example of these let me cite the history of two cases:

A. F., the proprietor of a hotel and restaurant, had for years, at intervals, very severe abdominal attacks accompanied with distention, sometimes with vomiting. These lasted from half an hour to two hours and each was relieved by one or more enemas. The patient stated that it would sometimes take one and sometimes four enemas to relieve an attack. An *x*-ray showed stone and the patient has never had any of his so-called intestinal attacks since its removal.

In another case, the patient, a traveling man, operated on for Dr. J. B. Herrick, had what had been treated for seven years as stomach attacks. These were of two kinds: first, a dull pain, which could be relieved by one or two drinks of whisky; and, second, severe attacks of pain accompanied with vomiting and, as the patient stated, relieved by vomiting once or several times, although that he had had a few attacks which persisted for some hours, even after he had vomited profusely and apparently emptied his stomach completely. Dr. Herrick found blood in microscopic amount in the urine and had an *x*-ray taken showing a small stone about the size of an almond. This I removed from the lower pelvis of the kidney.

DIAGNOSIS

A clinical diagnosis can usually be made in those cases giving a typical history of ureteral colic, combined with the presence of blood, or pus, or perhaps both, in the urine; pain and tenderness on palpation along the course of the ureter may be looked on as additional aids toward making a diagnosis, but they are not always present, and in stout individuals they may be difficult to elicit.

I have now no hesitation in stating that with very few exceptions the *x*-ray can be relied on to show stones as large as a bean. I think that it is fair to say that with

Fig. 3.—Small kidney from which a stone had been removed eight years before, in which practically all the kidney tissue had disappeared. Removed on account of persistent fistulous tract.

good technic the percentage of error is less than 5 per cent.

Our present confidence in the accuracy of the *x*-ray test is based on both laboratory and practical proof that the less dense of the urinary calculi possess sufficient absorbing power for the rays so that they may be detected in critical skiagraphs. To be sure, the shadows are less pronounced in case of small, flat or soft stones and perhaps difficult to obtain in corpulent individuals, yet an error is more likely to result, in a difficult case, from a faulty technic or interpretation than it is from any inherent lack of virtue in the method itself if carried out properly.

The patient submitted for the *x*-ray test for stone should have his bowels previously cleared of all fecal accumulations by cathartic or enema or both. His abdomen will then be in as transparent a condition as possible and shadows resulting from intermittent collections of gas and feces will be reduced to a minimum. Ordi-

narily the patient lies on his back on a low, rigid table with his knees drawn up and shoulders elevated so that the lumbar curve of the spine is straightened out and the back lies flat against the plate on the table underneath. For a skiagraph of the whole urinary tract the center of the tube is placed over the umbilicus at a distance of twenty to twenty-four inches from the plate.

It is always advantageous to compress the abdomen by some mechanical device in order to restrict respiratory movements, immobilize the kidney and reduce the thickness of the abdomen by lateral displacement. When the whole scope of the urinary tract is to be included, this compression is best done by a canvas band stretched over the abdomen and tightened down as much as the patient will allow. In skiagraphing limited regions, compression may be made by the cylinder from the compression diaphragm apparatus. Instead of applying the pressure directly to the abdomen a plain, pneumatic cushion of pure rubber may be interposed. More compression with less discomfort may be obtained by the canvas band and cushion than in any other way I have tried. Corpulent patients with abdominal tenderness which prevents compression may sometimes be induced to lie on their stomachs with the pneumatic cushion beneath and be rayed from below. Their own weight will then serve to compress the anterior soft tissues and reduce their thickness appreciably.

Fig. 4.—On the right, nephrolithiasis followed by suppurative pyelitis and perinephritis causing destruction and cicatrization of the kidney; on the left, compensatory hyperplasia of the opposite kidney.

In some cases of suspected ureteral calculus the x-ray may show the presence of a shadow, apparently along the course of the ureter, so that doubt might arise as to whether the shadow is due to a stone within the ureter or whether it is produced by some shadow-producing structure outside of the ureter, such as calcified lymph glands, phleboliths in the pelvic veins, ossifications in the pelvic ligaments, etc. Formerly these pelvic shadows were interpreted as those of ureteral calculi, only to have the error in diagnosis corrected at the time of the operation. To avoid this error in diagnosis and perhaps subjecting the patient to an unnecessary surgical procedure, the ureter on the suspected side (under certain circumstances both ureters) should be catheterized with a skiagraph ureteral catheter, and a second x-ray exposure should be made, taking two views of the patient, one in the antero-posterior direction and one with the patient slightly inclined to one side. By this procedure we can absolutely and positively determine whether the suspected shadow is due to a stone in the ureter or not.

The tube is placed in a lead glass shield upheld by a rigid support. Below the tube is always inserted a lead diaphragm of sufficient aperture only to allow the escape of rays which shall just cover the region selected. In this way other portions of the body are shielded from unnecessary exposure and the impure or vagabond rays are absorbed.

The exposure is a matter demanding experience, skill and judgment. The electrical apparatus, the tubes and the plates must be as nearly perfect as possible. The tubes particularly are of importance, since they are the source of the light and are really the weakest part of the apparatus obtainable to-day.

The finished skiagraphs should be examined carefully in the best possible light, that is, before an evenly illuminated background. In skiagraphs of good quality the majority of stones can be recognized as such on first inspection (see Fig. 1). The shadows cast by small soft or flat stones require better plates to show them strongly and a certain amount of time should be spent in considering the qualities of their shadows as compared with other structures seen on the plate. In general the shadow of a calculus is more marked than the mass shadows due to floating gas and liquids in the intestine; it has an abrupt and often irregular border.

The size, location and relative grouping of the shadows may speak very strongly for or against stone. All shadows due to other structures must be recognized and interpreted in the light of previous experience.

In the kidney region there are very seldom any localized deposits or other pathologic conditions capable of casting definite shadows, except calculi. Fortunately for renal diagnosis, on the right side the calculi in the biliary tract are almost uniformly transparent and thus save frequent confusion. In our work only about 3 per cent. of gall-stones cast shadows. The contour of the ribs should be examined in every case; otherwise small stones projected on the rib might be overlooked. In two cases we have had them projected on the transverse process of the second lumbar vertebra in part. Within the shadow of the true pelvis there are seen along the possible position of the ureter of many normal individ-

uals small round or oblong bodies variously interpreted as phleboliths, calcified glands or centers of ossification in the ligaments of the pelvic floor. The shadows so often seen near the spine of the ischium are centers of ossification in the pelvic ligaments. It is, therefore, necessary in some cases to prove or disprove the calculous nature of these bodies by the combined method of catheterization and skiagraphy.

It is to be remembered that in practice it is too often the tendency to interpret mass shadows in the kidney region and well-formed fecal shadows in the pelvis as soft stones. A recent collection of results covering the

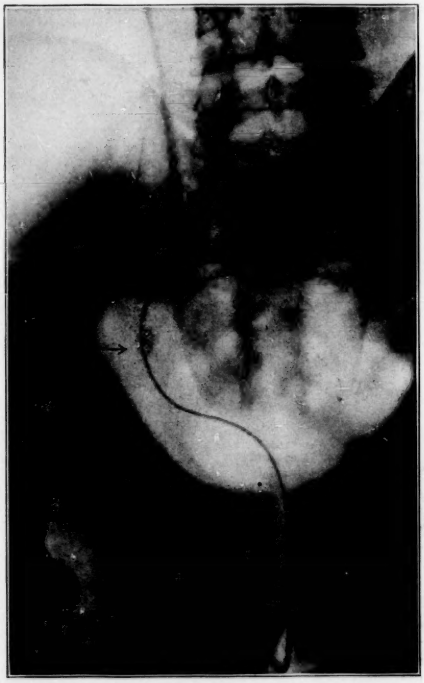

Fig. 5.—Skiagraph showing combined method of catheterization and radiography used to demonstrate that a calcareous body in the region of the ureter lies within it.

work of several men shows an 8 per cent. error due to calling these false shadows stone, with only a 6 per cent. error in failing to show interpretable stones afterward found at operation.

Individual workers have had as high as 97 per cent. perfect reports as to the presence or absence of stone in hundreds of cases.

While the size, shape, number and position of pelvic shadows may be an aid in differential diagnosis in some cases, they cannot be regarded as infallible, and the statement that the shadow corresponds to the position of the ureter, and hence must be a ureteral calculus, can be accepted only with a great amount of reserve, for some of the cases in which lead bougies have been passed into the ureter and then an *x*-ray picture taken show quite a marked difference in the course of the ureter.

Pyelography, as devised by Voelcker and Joseph, would hardly come under consideration as an aid in the diagnosis of ureteral calculus.

In taking *x*-ray pictures of suspected cases of ureteral calculus, it is well to *x*-ray the entire course of the ureter and the bladder, always bearing in mind the possibility of the passage of a ureteral stone down the ureter into the bladder, and this particularly in those patients who give a history of having previously passed stones.

TREATMENT

After a diagnosis is made, what is the treatment? I can now answer this question more positively than ever before. Operation and removal of the stone.

There are but two contraindications to operation: (1) kidney-stone in the very old and in those suffering

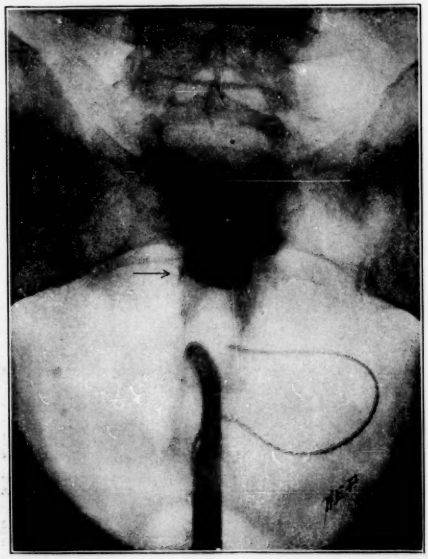

Fig. 6.—Skiagraph showing stone in anomalous kidney with cystoscopy and catheter in place.

from organic disease and bad general condition; (2) very small stones in the ureter which we may reasonably hope may be passed. As aids in the passage of the stone which becomes arrested in its course down the ureter may be mentioned the use of local anesthetics, such as sterile solutions of cocain, eucain, or alypin applied to the ureter in front of the stone through the ureteral catheter. Instead of local anesthetics, lubricants, such as sterile olive-oil or almond-oil or petrolatum, may be used. Klemperer has suggested manual movements along the course of the ureter. Jahr has recently devised an intra-ureteral method of dilating the ureter and thereby releasing the stone.

As already stated, however, the operative treatment will always remain the choice of treatment in a definite

number of cases. The question remains of the operation to be chosen—pyelotomy, nephrolithotomy or nephrectomy?

Pyelotomy, the incision into the pelvis of the kidney and removal of the stone, is the operation of choice in cases of small stones in the pelvis or stone of fair size limited to the pelvis. The incision should be closed with one or two fine catgut sutures and drainage provided—best with cigarette drains to the point of incision in the pelvis. This is an ideal operation, is free from hemorrhage, gives a rapid, smooth recovery with little menace to the kidney or the patient.

Nephrolithotomy is the operation required in multiple stones, in stones in the upper or lower pelvis, in stones in the calyces or branched stones or stones with gross infection. In doing a nephrolithotomy the kidney should be so freed from its fatty capsule that it can be well brought out of the external incision.

The vessels should then be compressed by an assistant with his fingers, never by clamp forceps, as has been sometimes suggested. A cut should be made about a centimeter behind the convex border of the kidney and parallel to it, through the kidney substance down on to the stone or stones or into the pelvis. In some cases of large branched stones the kidney must be completely laid open as in a post-mortem examination.

After the removal of the stone the line of incision is closed with catgut sutures. These, when properly applied, will control the bleeding completely. No drainage should be employed unless in the presence of gross infection with pus; and here, as I shall state later, it is, as a rule, where the conditions warrant, better to remove the kidney. A cigarette drain is carried down to the point of closure of the kidney wound. The one great objection to and danger in nephrolithotomy is hemorrhage. As a rule, this is a matter of no moment and the patient goes on to a good, smooth recovery as in the usual case of a pyelotomy. In some cases, however, no matter how much care has been exercised, hemorrhages will occur. I have had four or five cases of hemorrhage, one a fatal case, in removing a huge collection of stones (Fig. 2) from a kidney which was the only one possessed by the patient. In two other cases hemorrhage was so severe and persistent that, although the external wound had healed completely and the blood came down through the ureter into the bladder, I was compelled to remove the kidney to save the lives of the patients, the hemoglobin having been reduced in one case from 90 to 28 and in the other from 95 to 40. I have had several other cases in which, however, the hemorrhage ceased and the patients went on to a recovery.

Nephrectomy is the third operation which must be considered in operating on patients with renal calculus. We must not only remove the stone or stones in our kidney-stone cases, but we must permanently cure our patients. If we remove a stone from a badly diseased kidney, a suppurating remnant of a kidney (Fig. 3), we leave the patient usually with a suppurating urinary fistula, which is a source of great annoyance to him and may be a serious menace.

In my own work for the last few years my results have improved especially because I have recognized more than formerly the necessity of doing a primary nephrectomy in cases in which the kidney was so badly diseased that it was of no value and if left would give rise to trouble.

A great deal of work has been done to determine by different methods the functional capacity of the kidneys and of the separate kidneys. In spite of rather enthusiastic claims of these various methods—cryoscopy, the phloridzin test, the electric conductivity, the indigo-carmin test, etc.—we are, I believe, coming to regard these with little confidence. I am in my own clinic still resorting, in cases in which a possible nephrectomy is considered, to a cryoscopic examination of the blood and the phloridzin test. I must say, however, that I am controlled not so much by these as by more tangible evidence in my decision for or against a nephrectomy in a given case. This more tangible evidence consists in the following: (1) a cystoscopic examination with catheterizing the ureters to determine the presence of both kidneys; (2) the estimation of the total solids and urine output for several twenty-four-hour periods; and (3) the gross appearance as seen at the operation of the cross-section of the diseased and stone-bearing kidney itself.

If there is kidney sufficiency, as shown by repeated examinations of the total urine output, the surgeon of experience can determine from the gross examination of the kidney on section whether it is doing enough work to make its retention necessary (Fig. 4). If it is evident that it is of little value, then a primary nephrectomy should be chosen, as it will save the patient from a secondary nephrectomy which will be much more difficult and dangerous than the first operation.

The usual oblique kidney cut should be followed in all cases. In many of our cases we have operated under nitrous oxid anesthesia. With a patient in good condition and with an expert anesthetist I prefer ether. With a patient in poor condition but with a good heart, nitrous oxid is to be preferred.

Just a word here in regard to nitrous oxid. I have preached nitrous oxid a good deal and find now that it is being used by some surgeons without a clear conception of its value and its limitations. I have heard recently of several deaths from nitrous oxid gas, and when I have investigated them I have found that they have occurred in cases of individuals with heart trouble so bad as to contraindicate operation with any other anesthetic in the mind of the surgeon. Never use nitrous oxid in a very bad heart case. It is here not nearly so safe as ether. This fact should be more widely known.

ILLUSTRATIVE CASES

As a good example of the diagnosis and treatment of a ureteral stone I report the following case in which the first *x*-ray picture showed the presence of a shadow that suggested the possibility of a stone in the ureter. After Dr. Kretschmer had passed a ureteral catheter armed with fuse wire, as recommended by Kolischer and Schmidt, a second *x*-ray picture was taken, which showed the presence of the stone within the lumen of the ureter. This diagnosis was verified by the operative removal of the stone.

The patient, a man, aged 52, entered the Presbyterian Hospital on Dec. 5, 1908. The first symptoms of his present trouble began four years previously, at which time he was unable to void urine for a long time, and at other times he would have attacks of frequency of urination. At this time the patient had severe abdominal pain in the left lower quadrant of the abdomen. For the past eleven months the patient had felt a pain or discomfort in the lower left quadrant of the abdomen, and when the pain was severe it would radiate toward the kidney and the bladder. At irregular intervals he would have exacerbations similar to his first attack.

The physical examination was negative. There was no tenderness over the kidneys or the bladder. Some tenderness could be elicited in the left lower quadrant of the abdomen on firm pressure, which was not very severe or localized to any

special point. The urine was turbid; specific gravity, 1.020. The sediment showed the presence of red and white blood cells. No casts were found; no tubercle bacilli. Cystoscopic examination showed the internal urethral orifice negative. A slight amount of injection of the vessels of the trigone was present; otherwise the bladder was negative. On account of the pain on the left side, and owing to the fact that the suspicious shadow was found on the left side, it was decided to catheterize the left ureter only. For this purpose a ureteral catheter armed with fuse wire was used and passed into the pelvis of the kidney. A second *x*-ray picture was then taken, which showed the presence of the stone within the lumen of the ureter (Fig. 5). On examining this picture, the entire course of the ureter can be seen and in its course the shadow of the stone, most of which can be seen lying internal to the wire.

No obstruction to the passage of the catheter was experienced at any time during its passage.

In carrying out this work, it is of prime importance to obtain good, clear and distinct shadows on the *x*-ray plate. For this purpose cinnabar catheters and skiagraph bougies have been recommended. The ordinary ureteral catheter, armed with fuse wire, as was used in this case, has always given very satisfactory results, first, on account of the clear, distinct pictures produced; and, second, on account of its pliability, allowing the catheter to follow the course of the ureter without causing any deviation in its course.

This method of diagnosis can also be used in other conditions of the upper urinary tract, besides in the diagnosis of ureteral calculus, as, for example, in cases of renal calculi, in displaced kidneys, or in horse-shoe kidneys, as is illustrated by the following case:

The patient, Mr. T., complained of pain in the lower part of the abdomen a little to the right of the median line and the presence of pus in the urine.

The *x*-ray showed the presence of a shadow the size of a hickory nut compatible with that of a calculus just below the promontory of the sacrum. Stereoscopic views were then made, which showed that the shadow-producing mass was situated in front of the sacrum. On one of the projections the mass was seen about an inch to the right of the median line, which corresponded exactly to the point of tenderness.

On account of the right-sided pain and in view of the fact that one of the projections showed the shadow on the right side, it was decided to catheterize the right ureter with a skiagraph catheter and demonstrate the course of the ureter by *x*-ray. The catheter entered the ureteral orifice easily and advanced without any obstruction about one-third of its usual distance when an obstruction was met and further advance was impossible. After an *x*-ray was made it was seen that the catheter, instead of proceeding across the synchondrosis in its usual path to the kidney, swerved inward to the median line and stopped immediately in front of the stone (Fig. 6).

The value of this method is amply illustrated by this case and the preceding, in neither of which an accurate and positive diagnosis could have been made without it.

The following technic was employed in the above case of ureteral stone: Muscle-splitting incision about five inches long was made in the usual position of the incision for appendectomy. This was stretched widely so that the split in the internal oblique and transversalis extended almost to the middle line exposing the rectus muscle. This incision extended down to, but not through, the peritoneum. The peritoneum was stripped away so as to expose the iliac vessels; the ureter, with the lead wire catheter and the stone in it, was readily felt with the finger. The ureter was brought into view with a couple of blunt hooks, one below and one above the stone. An incision about one centimeter long was made longitudinally over the stone and the stone removed. The small opening in the ureter was sutured with a couple of fine catgut stitches and the external wound closed, leaving a cigarette drain with a small rubber tube in it down to the point of closure in the ureter. A small amount of urine escaped for a few days along the cigarette drain. The cigarette drain was removed on the third day and the wound was completely closed by the tenth day.

PROGNOSIS

I can best estimate the prognosis in modern kidney-stone work from my own cases. In more than 50 cases of pyelotomy and nephrolithotomy I have had but one death—that in the case already referred to. I have had, however, two cases of death from secondary nephrectomies, both made extremely difficult because of the necessity of digging the kidney remnant out of dense scar tissue due to long-standing perinephritic inflammation.

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DISTURBANCES OF THE INTERNAL SECRETIONS CLINICALLY CONSIDERED*

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It is the object of this paper to present an abstract of the present knowledge of the physiology of the glands that furnish internal secretions; of the clinical conditions that disturbances of these glands are known to cause; of abnormal clinical conditions that disturbances of these glands are sometimes considered to cause; of the influence that can be exerted on the secretion of these glands by drugs and preparations of glands; and of the different physiologic activities that can be caused by the administration of gland preparations.

The glands to be considered are those that are known to furnish secretions which do not reach the blood and lymphatics by ducts. They are the pituitary (hypophysis cerebri), the thyroid, the parathyroids (epithelial bodies), the pancreas, the suprarenals (adrenals), the ovaries, and the testicles.

Also should be considered the glands and organs which have been assumed to furnish internal secretions. Such are the parotid, the thymus, the mammary, the liver, the kidneys, and the prostate.

PITUITARY BODY

While little is positively known of the function of this gland, it has been lately shown that the whole of the gland cannot be removed without causing death within twenty-four hours, but, if a certain part is left, death does not occur. Extracts from the infundibular portion of the gland raise the blood pressure and increase the cardiac activity, but this action is much less than that which occurs when suprarenal is administered. The blood pressure is raised principally by the action of the extract on the walls of the arterioles. Extracts from the hypophysis portion of the pituitary have been shown to cause slowing of the heart and prolongation of the systole.

This gland and the suprarenals seem to be the only glands of the body that furnish vasoconstricting stuff, and it has been claimed that the pituitary regulates the intracranial blood pressure, regulates diuresis, and exerts a tonic action on the sexual organs. Extracts from the infundibular portion have been shown to cause diuresis, whether the blood pressure is increased or not.

* Read at the Sixteenth International Medical Congress, held in Budapest, Hungary, Aug. 27 to Sept. 4, 1909.

The colloid substance of the gland perhaps represents a secretion.

The pituitary seems to be closely related in its functions to the thyroid gland; when the latter is diseased the hypophysis often becomes hypertrophied, and when the pituitary is diseased the thyroid has been found hypertrophied.

The relation of the pituitary secretion to the growth of the skeleton has not been determined, but the pathologic condition of this gland in acromegaly would seem to demonstrate that it has a function in bone development and bone growth that is of prime importance.

The consensus of opinion is that a diseased condition of the hypophysis cerebri is invariably a pathologic finding in, and, in all probability, a cause of, the disease of acromegaly. Instances of disease of the pituitary in which acromegaly does not occur do not militate against the acceptance of this etiology, as there may be supernumerary glands which furnish secretion compensating for defects in the pituitary, or disease of the pituitary may be so rapid as not to allow the condition of acromegaly to occur. It is quite possible that when autopsies on patients whose deaths have occurred early in acromegaly, have not shown macroscopically any changes in the hypophysis, microscopic examinations would have shown hyperplasia, and one or more instances are on record which have shown this condition to be present.

As has been stated above, the thyroid can supplement, and perhaps does so frequently, the work that the pituitary should accomplish.

It seems probable in every case of gigantism that the pituitary hypersecretes, and that this extra secretion stimulates an enormous bone growth. If this secretion is normal and simply increased in amount, and this extra secretion begins during the period of adolescence, a giant is the result. If, on the other hand, this hypersecretion begins after the full growth of the body has been attained, irregular bone growth and consequent deformity will follow, and a typical acromegaly will develop. It is also probable that in every case of gigantism, if the person lives long enough, signs of abnormal bone growth, acromegaly, will develop. In other words, gigantism is a condition due to hypersecretion of the pituitary, and acromegaly a condition primarily of hypersecretion, later hyposecretion, of the pituitary. This supposition does not seem unique when it is recalled that Graves' thyroid disease (exophthalmic goiter) is a condition of hypersecretion of the thyroid, and that later this same thyroid may so under-secrete as to cause some symptoms of myxedema.

Tumors of the hypophysis cerebri seem to cause a cessation of menstruation.

Disturbance of the secretion of this gland may be the cause of headache and muscular debility; at least this deduction may be made, as it seems to be a fact that the headache in many patients suffering from acromegaly may be removed and the muscular weakness may be lessened by the administration of pituitary extracts.

It has been suggested that pituitary secretion regulates sleep; too much of this secretion causing coma, and too little insomnia.

There is no proof of the ability of any drug to stimulate the secretion of the pituitary, though it is probable that both pituitary substance and thyroid substance may stimulate it. It has not been shown that any drug inhibits the activity of the pituitary.

It has seemed repeatedly demonstrated that prolonged use of pituitary substance causes the amelioration of the headache and an increase in the muscular ability of patients suffering from acromegaly.

As hypophysial preparations raise the blood-pressure and slow the pulse, they have been used in cardiac and circulatory depression in typhoid fever, in pneumonia, and in irregular hearts and vasomotor disturbances. It has not been shown that extracts of this gland are any more efficient in these conditions than are suprarenal extracts. The action is certainly not so intense, but it may be more lasting.

From recent investigations it is possible that this drug may be used as a diuretic.

THYROID

This gland is the best understood of all the ductless glands, and its functions are so many and so diverse that the story of its physiologic activities seems scarcely believable. Its specific activities may be summed up as follows: A perfect secretion of the thyroid is necessary for the proper bone and mental development of the child, and the proper mental condition of the adult; for the proper relationship of the amount of fat to the rest of the body; for the proper health and functioning of the skin; for the proper health of the teeth, hair, and nails; for the proper menstrual and maternal functions of women; for the proper nitrogenous metabolism of the body; and for the prevention of nitrogen toxemias.

While this gland is present at birth, and functioning throughout childhood, it is most fully developed and active from the age of puberty to the age of forty-five. From that time its secretion is decreased until the gland atrophies in old age.

Besides its internal secretions, the thyroid produces a colloid substance which seems to be a storehouse for some of its activities. It acquires and stores iodin, and iodin is necessary for a part, at least, of the proper functioning of the gland.

Extracts from the thyroid lower blood-pressure and at the same time increase the rapidity of the heart. The polymorphonuclear leucocytes have been shown to be decreased by the feeding of thyroid, and, at times, the lymphocytes to be increased, while the whole number of white cells is diminished. This same condition of the blood is often present in exophthalmic goiter.

Men and animals can live for a time without the thyroid, provided the parathyroids (epithelial bodies) are not removed. Sooner or later, however, disturbances occur which will lead to death unless thyroid extract or secretion is in some manner furnished to the body.

Thyroid tissue has been successfully transplanted into various parts of the body and the thyroid then extirpated, and no symptoms have developed.

Hypersecretion of this gland has been proved to be the cause of Graves' thyroid disease (exophthalmic goiter). It is also true that any one, or more, of the many symptoms of this disease may be present without the other symptoms, and yet one and all be due to a disturbance of the thyroid. These disturbances may be in all degrees of intensity, and are tachycardia, nervous irritabilities, insomnia, loss of weight, more or less profuse perspiration, various digestive disturbances and various uterine disturbances (more especially a tendency to a profuse menstrual flow).

Cretinism and myxedema are positive signs that the thyroid is hyposecreting, and from this lowest degree of under-secretion up to that of slight subnormal secretion occur all the varying symptoms due to a diminution of thyroid activity. The conditions caused by hyposecretion of the thyroid are obesity, adiposis dolorosa, sleepi-

ness, mental apathy, dryness of the skin, chronic eczemas, digestive disturbances, slowing of the heart, increase in the blood-pressure, and amenorrhea or scanty menstruation.

Defective thyroid function in the mother is doubtless the essential factor in the production of cretinism.

As previously stated, it has been recognized that there may be all grades of thyroid secretion, from the excessive secretion which causes Graves' thyroid disease (exophthalmic goiter) to the complete absence of this secretion which causes cretinism and myxedema. Many apparently functional, neurotic, hysterical and mental disturbances, as well as disturbances of nutrition and toxemias due to disturbed nitrogen metabolism, may all be due to malfunction of the thyroid.

The neurotic, alert individual who is many times mentally bright, interesting, and magnetic is so, perhaps, because of an increased thyroid secretion. Excessive suffering from pain, real or imaginary, is probably due to excessive thyroid stimulation. Many unexplained insomnias are probably due to the same cause. So-called functional tachycardias without other symptoms of Graves' disease are possibly due to thyroid disturbance. The various forms of hysteria, some cases of epilepsy, mental depression, and even primary melancholia are all due to disturbed thyroid secretion. The excitability of the premenstrual period is doubtless due to an increased thyroid secretion. The uncomfortable symptoms of the menopause, hot flashes, sweatings, restlessness, and mental disquietudes are all due to an increased thyroid secretion, at a time when it is not needed for the menstrual function. If the thyroid decreases its secretion synchronously with the cessation of ovulation, the happiest development of the menopause takes place. If it continues to hypersecrete periodically, for a time, after ovulation has ceased, the well-known uncomfortable symptoms of the menopause occur. If, on the other hand, it under-secretes very rapidly after the cessation of ovulation, the patient gains weight, and there may be other symptoms of abnormal under-secretion, such as, even, some myxedematous phenomena.

If the thyroid does not act properly at the menstrual period, or if through its improper action menstruation does not occur, not only may violent headaches and other signs of toxemia appear, but epileptic attacks may develop. The proper administration of thyroid substance or extract will generally cause the menstruation to become regular and normal, will often prevent headache, and, frequently, will prevent epilepsy. Epileptic conditions that develop at the time of the menopause may be cured by the administration of extracts of this gland.

Some asthmatic attacks due to nitrogenous poisoning may be prevented by the administration of thyroid, showing that a thyroid undersecretion is present. The hypertension of arteriosclerosis and senility may be prevented by the administration of thyroid. Gouty manifestations are often made less frequent, and exacerbations may be prevented by the administration of thyroid. Senile eczemas and eczematous conditions in the young child may often be improved by giving thyroid, showing that in these instances an under-secretion is present.

The thyroid gland is stimulated to hypersecrete by alcohol, caffein, arsenic, iodin, thyroid substance, and possibly by strychnin and phosphorus. A thyroid gland that is hypersecreting is quickly stimulated by alcohol and caffein, and sometimes by iodin. Such repeated stimulations in conditions of exophthalmic goiter are dangerous and should not be allowed. The stimulation from iodin, in small doses, and from thyroid substance lasts for a long time, and may awaken a subsecreting gland to more perfect work.

The thyroid gland may be inhibited in its activity by chronic lead poisoning, by the prolonged use of mercury, by the prolonged use of large doses of iodid, by severe infections, and by protracted disease. Its hyperactivity may be diminished by glycerophosphates, possibly by other lime salts, doubtless by morphin and other opiates, occasionally by belladonna, strophanthus, bromids, and by abstinence from meats.

Sexual excitement increases the thyroid secretion, and when there is hyposecretion of the thyroid, sexual desire is lost.

Thyroid extracts when administered by the mouth have the ability to cause all of the activities of the normally secreting gland.

PARATHYROIDS (EPITHELIAL BODIES)

It is comparatively recently that these glands have been shown to be not only important, but exceedingly active and very necessary for the health of the individual. It has also been proved that many of the supposed symptoms from thyroid extirpation are really due to parathyroid extirpation; that convulsions and tetany are due to extirpation of these glands; that, in man and many animals, removal of all of the parathyroids causes death, which can be prevented by the administration of parathyroid extract.

Whether the secretion from these glands prevents the formation of toxins or neutralizes toxins in the blood, it seems certain that their secretion prevents the irritation of the nervous system by such toxins, or regulates certain normal metabolic processes. It has been suggested that the secretion of the parathyroids may neutralize the toxins of muscular exertion and prevent fatigue.

While it has been stated that parathyroidectomized animals do not have convulsions if they are kept on a milk diet, it has still been asserted that these glands have little to do with nitrogen metabolism.

Recently MacCallum has shown that the parathyroids control calcium metabolism. If they are extirpated, rapid excretion of calcium takes place and a diminished amount of calcium remains in the blood, and hence there occurs an insufficient absorption and assimilation of calcium salts. This experimenter has shown that the symptoms after parathyroidectomy may be stopped by the intravenous injection of a 5 per cent. solution of acetate, or lactate, of calcium. Potassium solutions make the convulsive symptoms worse, while magnesium solutions, though beneficial, cause an undesired anesthetic action on the nervous system.

These glands vary in number (one to four), size and position in the neck. As they are necessary to life, in operations on the thyroid, two at least should be saved the patient, even if they must be transplanted.

Symptoms from hypersecretion of the parathyroid glands have not yet been recognized, though it has been suggested that a hypersecretion may be the cause of muscular weakness, and that a disturbed condition of the secretion may be the cause of paralysis agitans. Insufficient secretion of these glands seems to be the cause of tetany, and perhaps is the cause of other convulsive conditions, such as eclampsia and some forms of epilepsy.

Although the parathyroids have been found apparently normal after death from infantile tetany, this does not disprove the theory that tetany is due to their malfunction. Parathyroid extracts should certainly be tried

in tetany, in .003 to .006 gram (1/20 to 1/10 grain) doses. Parathyroid has been occasionally of benefit in paralysis agitans, and may be of value in eclampsia and in other convulsive conditions.

It would seem wise to give women during pregnancy and lactation small doses of calcium, as such treatment should tend to prevent the softening of the mother's bones and the decay of her teeth, which so frequently occurs during this period.

The parathyroids have been found degenerated in primary infantile atrophy, but whether administration of preparations of these glands would be beneficial in such conditions has not been determined.

PANCREAS

Besides the pancreatic secretion which passes through the pancreatic duct, the pancreas furnishes an internal secretion necessary to the health and life of the individual. The pancreatic duct may be tied and the animal live, but the pancreas cannot be removed without death supervening.

It has been asserted that the internal secretion of the pancreas as well as the secretion through the pancreatic duct is necessary for the proper utilization of foodstuffs. This internal secretion of the pancreas has been positively demonstrated to be necessary for the proper metabolism of carbohydrates, and if this function of the pancreas is interfered with glucose will appear in the urine, and if this function is permanently abolished diabetes mellitus is the consequence. While glycosuria can occur without any apparent disease of the pancreas, and while disease of the pancreas can occur without glycosuria, it seems proved that disturbance of the internal secretion of the pancreas (whether from actual degeneration of the islands of Langerhans, from reflex nervous disturbances, from abnormal liver conditions, or from disturbed suprarenal activity) will surely cause glycosuria. Hence, a consideration of the carbohydrate metabolism from the intake of starch to the normal amount of sugar in the blood, and to the normal function of the muscles from glycogen nutrition, must take into account the internal secretion of the pancreas.

It should be emphasized that disturbances of the interrelations between the ductless glands, whether by disturbed secretions of one or more of them, or by disturbances due to nervous irritations, reflex or direct, may sufficiently disturb the pancreatic internal secretion to cause glycosuria and yet no apparent disease of the pancreas be found on autopsy. Instances of such glycosurias are those that occur from some irritations of the brain, injuries to the fourth ventricle, etc.; the glycosuria that often occurs in acromegaly (disease of the pituitary); the glycosuria that often occurs in thyroid disease; and the glycosuria that has been shown experimentally to occur from too much absorption of suprarenal extracts.

Thyroid secretion has been shown to exert profound influence on the secretion of the pancreas. If thyroid activity is insufficient, hypersecretion of the pancreas occurs. If there is excessive thyroid secretion, as in exophthalmic goiter, an under-secretion of the pancreas occurs.

Disease of the islands of Langerhans in the pancreas always causes diabetes mellitus, unless there is sufficient healthy pancreatic tissue or supernumerary pancreatic tissue to prevent an absence of this secretion.

While the pancreatic juice may be increased by hydrochloric acid and by secretin, and by various drugs such as creosote and salicylic acid, it is not known how the internal secretion of the pancreas may be increased or diminished.

Unfortunately, the feeding of pancreas, or any extract made from pancreatic tissue, does not prevent or cure diabetes.

SUPRARENALS

These glands are necessary for life, and when they are extirpated death occurs. When they are diseased the patient becomes debilitated and finally dies.

The most interesting activity of these glands is that of their ability to furnish a secretion which enormously raises the blood-pressure, and one of their most important functions is to keep normal the tone of the systemic arteries. It has been experimentally shown that this active substance (epinephrin, suprarenin, or adrenalin) is the strongest vasoconstrictor that we possess, and its activity is exerted principally on the muscular coats of the arteries, although it is also a stimulant to the heart muscle. Too much of it is a respiratory depressant. This substance is probably oxidized in the tissues.

The suprarenal secretion seems not only to give general muscle tone to the system and to act as a muscle stimulant, but it especially stimulates the muscles innervated by the sympathetic system. As above stated, excessive amounts of suprarenal extract thrown into the circulation, especially if absorbed from the peritoneum (by reason of the rapidity of absorption), cause such disturbance of the carbohydrate metabolism, perhaps disturbance of the secretion of the islands of Langerhans, as to produce glycosuria. As might be inferred *a priori*, it has been shown that large amounts of pancreatic juice can inhibit this adrenalin glycosuria.

It has been suggested that the suprarenals have various antitoxic functions, but no such action has been demonstrated.

A proper amount of suprarenal secretion seems necessary to the normal development and health of the red blood corpuscles.

Experimental disturbances of the suprarenals has seemed to cause pigmentations of the skin, and it has been shown that the suprarenals have something to do with the normal pigments of the skin.

Suprarenal pressor substance acts especially on the blood vessels in the kidneys, and can contract the kidneys even in doses too small to be noticed by the general circulation. It is, therefore, quite possible that a hypersecretion of these glands may be an important factor in the etiology of chronic interstitial nephritis.

While it has been found very difficult to transplant suprarenals, grafts have been successfully placed in the kidneys, but whether they will functionate or not is still an undecided question.

Too strong solutions of suprarenal principle should not be used, as even ten minims of a 1 to 1,000 solution injected into the urethra has caused fatal poisoning.

The cortex of the suprarenal has been lately shown (Shäfer) to be probably a separate secreting gland tissue, which may have close relation to the sexual organs and to the pigments of the skin.

Hyperplasia of the cortex of the suprarenals has been shown to occur in puerperal eclampsia and in the nephritis of pregnancy.

When the suprarenal glands are diseased, symptoms develop which in their totality are called Addison's disease. These symptoms are progressive anemia, low blood-pressure, gastrointestinal disturbances, more or less abdominal pain, and a bronzing and pigmentation of the skin and some mucous membranes. The degeneration of

these glands which causes Addison's disease is most frequently a tuberculous process.

These glands have been found abnormal in various diseased conditions, and in many instances the vasopressor substance has been found greatly diminished. Acute insufficiency of the suprarenals can occur and cause death. They may become infected with various germs, be congested and be hemorrhagic, and such conditions may cause death. Hyperplasia of the suprarenals has been found to be an almost constant condition in arteriosclerosis and interstitial nephritis.

Arteriosclerosis is a disease of old age, and it is probably always preceded by a period of increased arterial tension. As the thyroid atrophies after fifty, and therefore furnishes a smaller and smaller amount of vasodilator substance, the relation of the vasopressor substance furnished by the suprarenals to the vasodilator substance in the blood is changed. Consequently, although the vasopressor substance may not be actually increased, it is relatively increased in the blood, and the arterial pressure is raised. This is normal old age. If at any time earlier in life the thyroid vasodilator substance should be diminished in amount, or if from any cause the suprarenal vasopressor substance is increased in amount, high blood-pressure and perhaps arteriosclerosis would be the result. Consequently any disease that interferes with the activity of the thyroid gland, or any disease that stimulates the suprarenals, may have as its ultimate consequence arteriosclerosis.

It is also possible that increased activity of the suprarenals may so increase the tension of the vessels of some of the abdominal organs that improper metabolism of nitrogenous foods may occur and gout be the result. In other words, it is possible that the suprarenals may take some part in the unexplained etiology of gout, and, as thyroid disturbances have been shown to be inherited, so may suprarenal disturbances be inherited. So much for hypersecretion of the suprarenals.

It is possible that neurasthenic conditions and conditions of chronic low blood-pressure, without tangible circulatory excuse, may be due to an under-secretion of the suprarenals. Gastrointestinal atrophy may also be due to this same cause.

Surgical shock as seen so many times following abdominal operations is probably due to injuries of the sympathetic system so interfering with suprarenal secretion that the vasopressor substance is not produced or circulated, and often irremediable low blood-pressure and death are the result. Good results in shock from acute infections, and especially in suppurative peritonitis, may be obtained by injecting intravenously 500 c.c. of physiologic saline solution to which has been added three drops of a 1 to 1,000 solution of the pressor principle of suprarenal.

Suprarenal has been used in uterine hemorrhage with success.

The active principle has been used with success in asthma and hay fever. To be effective it must be dissolved on the tongue or sprayed into the nostrils, or used in oily preparations in the nostrils.

To cause any rise in blood-pressure suprarenal extract must be absorbed from mucous membranes, or it must be administered intravenously or intramuscularly.

It is not known that any drug or preparation will stimulate the suprarenals to greater activity, but morphin seems to inhibit them, and the circulatory depression in morphin poisoning may be due to suprarenal inhibition.

Besides the use of suprarenal vasopressor substance as a local astringent and a circulatory stimulant, the administration of suprarenal substance as a whole, by the stomach, has not been shown to have great value. Although a number of instances are on record in which the administration of suprarenal extract has apparently cured Addison's disease, it has generally failed. There seems no other excuse for the internal administration of suprarenal substance.

OVARIES

Besides the function of ovulation, the ovaries seem to have an internal secretion, as evidenced by the well-known development of premature climacteric conditions, when both ovaries are removed. The unpleasant symptoms produced by such operations may be stopped by the administration of ovarian substance; consequently, the deduction seems warranted that the ovaries furnish something to the blood necessary to the perfect health of the female.

Preparations of ovaries contain a vasodilator substance, which may, however, be not other than the nucleoprotein contained in such preparations, and nucleoprotein is a vasodilator. Possibly, also, the cholin, which occurs in the decomposition of cholesterin and consequently in such substances as ovarian preparations, may also be a vasodilator.

It is thought by some that the mucous membrane congestion of the nose which always occurs during menstruation and always in both sexes during sexual excitement is due to ovarian secretion. Such congestion, however, is doubtless due to thyroid secretion. Ovarian secretion seems to be necessary for the proper functioning of the mucous membrane of the uterus.

Ovarian substance may be transplanted and functionate, whether the transplanted ovarian substance is from the same animal, from the same species, or from other species, and the animal may menstruate and conceive. Ovarian grafts, after double ovariotomy, have been placed in the broad ligaments and pregnancy has occurred four years later.

It has seemed that many of the disturbing symptoms of menstruation are due to ovarian insufficiency or to increased ovarian activity, and it is doubtless probable that many nervous symptoms in women are due to ovarian disturbance.

The corpus luteum has been thought to be a ductless gland furnishing an internal secretion which is necessary for the nutrition of the trophoblast during early pregnancy. This body subsequently atrophies. It has been claimed that bleeding from the uterus has been stopped by the administration of extract of corpus luteum.

When both ovaries are removed, the menopause is, of course, inaugurated, and various symptoms occur which are evidently distinctly due to the removal of the ovarian internal secretion, and such symptoms have been shown to be ameliorated by the administration of ovarian extract. Signs of gout in women often appear at the menopause. Although it has been stated that the administration of ovarian extract will prevent such symptoms, it often fails. Cancer of the breast may cease to grow after double ovariotomy; this before the menopause. Double ovariotomy has caused insanity.

Osteomalacia has been arrested by the removal of the ovaries; hence this disease may be due to disturbed ovarian secretion, perhaps an over-secretion. It has been suggested that milk from a goat whose ovaries have been removed should be of benefit in this disease.

Many cases of epilepsy develop in girls at the time of puberty, owing to a disturbance of ovarian and thyroid functions.

Ovarian substance has been administered in Graves' disease with some apparent success.

Iron, manganese and thyroid seem to be stimulant to ovarian activity. Whether these stimulants to ovulation are also stimulant to an internal secretion of the ovaries is not demonstrable.

While ovarian substance has seemed many times to prevent the unpleasant symptoms after double ovariotomy, the administration of this gland to a healthy woman apparently causes no symptoms. In amenorrhea it is not nearly so efficient as is thyroid.

TESTICLES

The general attributes of eunuchs and castrated animals show that there is a secretion from the testicles that is necessary for the normal development and health of the male. Castration before puberty causes animals and man to grow taller than normal, and to grow fat if they lead an indolent life, while the muscle strength depends on the amount of exercise they take.

If boys are castrated before puberty the skin becomes yellowish, and the hair of the face, axillæ and pubes is scanty, though there is plenty of hair on the head. The voice does not attain the masculine type. If one testicle is removed, the other may hypertrophy, and the breasts sometimes hypertrophy when the testicles are removed or atrophy. It is also stated that the prostate does not develop to normal size, but remains as a child's, if the boy is castrated.

There therefore seem to be two parts to the testicles, the seminal gland and an interstitial part. If the interstitial part does not develop in boys, a natural eunuch is the consequence. Variations in the internal secretions of the testicles may be from normal to total absence, and all grades of developmental peculiarities be the result.

If there is thyroid insufficiency, the testicles do not develop properly, and if the testicles are removed the thyroid remains small. In infantilism in the male both thyroid and testicular extracts should be administered, while thyroid alone will hasten delayed puberty.

Preparations of this gland are rich in nucleoprotein, and consequently contain vasodilator stuff. It is not clear that the so-called alkaloid spermin differs from the active principles extracted from other glandular and nervous tissues.

It has not been shown that the feeding of testicular extracts to young castrated animals or man will prevent the development of the characteristics of eunuchism.

Thyroid extract, phosphorus and strychnin have seemed to be stimulant to the testicles.

So far, the only effect of testicular administration seems to be due to the nucleoprotein. Any prolongation of life, or rejuvenation, or preservation of eternal youth, cannot be expected from testicular extract.

PAROTID

Although it seems almost improbable that the parotid glands furnish an internal secretion any more than do the submaxillary or sublingual glands, nevertheless, there is the ever-frequent occurrence of the infection of mumps causing the peculiar metastasis to the testicles and ovaries. This shows an unexplained relationship of the parotid glands to these sexual glands. It was long supposed that it was only the testicles that were subject to metastasis from infectious parotiditis, but more careful clinical observations have thoroughly demonstrated the fact that the ovaries often become coincidently inflamed and painful in this disease. The consequences of such ovarian congestion, however, have not been shown to be so serious as those from the corresponding testicular inflammation. It is within the range of probability, however, that the ovarian complication of mumps may cause a malfunction of the ovaries that may cause disturbances years after.

Parotid gland substance and parotid gland extracts have been given to patients who suffer ovarian pain and obstructive or congestive dysmenorrhea, and improvement has been observed in these conditions, but this action has not been proved to be more than a coincidence.

THYMUS

This ductless gland is actively functioning at the time of birth, gradually atrophies during childhood, and ordinarily disappears at puberty. While the thyroid is necessary to the welfare of the growing child, it is not performing its whole function until puberty and its perfect activity seems to be more or less coincident with the complete inactivity of the thymus. While various experiments have been carried out with the object of determining the physiologic function of the thymus, a definite decision as to its use has not yet been deduced. It has been stated that when young animals are deprived of their thymus glands there is diminished growth of the bones. Chemically, on account of its large content of nucleated cells, the thymus gland contains a correspondingly large amount of nucleoprotein. Consequently, it contains a large amount of organic phosphorus.

Various symptoms have been shown to be caused by injections of extracts of thymus, but it has not yet been satisfactorily demonstrated whether young, warm-blooded animals can live without the thymus gland, or just what symptoms the deprivation of its secretion will produce. The gland does not normally contain iodin.

As this gland has its greatest activity during the period of the greatest growth of the body, as the greatest growth in childhood is that of the bones, and as this gland atrophies at about the time when the bone growth is complete, it would seem deductively that the secretion of the thymus was essential for such bone growth.

The thymus has not been proved to be a positive cause of any pathologic condition. If the phosphorus element in the blood were insufficient, and perhaps insufficiency of the thymus may cause this condition, thymic insufficiency could be the cause of the disease of rickets. Also general slow bone growth, slow eruption of teeth, and slow closing of the fontanels of the skull, especially if there were no symptoms of thyroid insufficiency, could be caused by an insufficient secretion from the thymus.

We have no positive knowledge of any symptoms from hypersecretion of the thymus, although this gland has been found enlarged coincidently with enlarged lymphatic glands in conditions of lymphosis. The thymus may be more frequently enlarged in the general lymphatic and adenoid hypertrophies than has been supposed. Its excessive enlargement has been repeatedly stated to be the cause of the sudden death of infants, the so-called thymic death, supposed to be a condition of suffocation.

The administration of thymus gland substance has seemed occasionally to be of value in exophthalmic goiter, has seemed occasionally to have been of value in rickets, has seemed occasionally to have been of value in pulmonary tuberculosis (on the same theory that the hypophosphites have been of value), but no positive

result has been proved to occur from the administration of thymus. As a stimulant to the production of an increased number of white blood corpuscles, thymus gland may be administered as successfully as any other nucleoprotein treatment.

MAMMARY GLANDS

The interrelations between the thyroid, the ovaries, and the mammary glands are well understood. The perfect functions of the mammary and ovarian glands probably cannot occur without proper thyroid activity. The nervous or chemical adjustment between the ovaries and the mammary glands must be most perfect for their perfect correlation. When one set is performing periodic functions, the other set is generally quiescent, and when the other has its period of activity the other is at rest, this as far as their specific functions are concerned. The periodic congestion of the mammary glands just before menstruation, perhaps coincident with ovulation, again shows the correlation of these wonderful mechanisms.

That the mammary glands have, beside their specific secretion, an internal secretion is certainly supposable, but has not been satisfactorily proved. It has not been demonstrated that hypertrophies or large masses of the mammary glands cause any modification of the health of the female as compared with the health of one who has only small or atrophied glands. Consequently, more or less of the glandular tissue of the mammæ, when lactation is absent, does not seem to cause signs or symptoms that can be noted. It has been suggested that, on account of the clinical obervations having seemed to show that mammary preparations, when administered, have a stimulating action on the uterine muscles, the mammary gland has an internal secretion.

The mammary glands are stimulated to hypertrophy probably by both ovarian and placental influences, and certainly ovarian internal secretion seems to be necessary for their development, while the subsidence of ovulation seems to stimulate the milk secretion. On the other hand, it is known that putting a babe repeatedly to the breasts of non-pregnant women has caused the appearance of milk, and even a copious secretion.

Profuse uterine flow may be stopped by the application of a suction pump to the breasts for half an hour daily, during menstruation. This seemed to prevent excessive congestion of the ovaries and also to contract the uterus. The same treatment, between menstruations, seems to stop too great a frequency of this function, in young girls especially.

Mammary substance seems to have a positive activity when administered, and has frequently caused a cessation of uterine hemorrhage, profuse menstruation, and other uterine bleedings. It is also valuable in menorrhagia in young girls. Mammary extracts have not been shown to have any other activity.

LIVER

Among the manifold duties of this largest gland of the body may be that of furnishing an internal secretion that is antitoxic to various metabolic poisons, probably more especially poisons from disturbed nitrogenous metabolism.

There are various disturbances of the nervous system which seem to denote its irritation by ammonium compounds, and, although the major function of the liver may be performed well, such irritations may denote a mistake of the liver. There may be found on autopsy no histologic changes in the liver tissue, still there are conditions which are termed uremia and cholemia, and unexplained anemias, and there occurs also disturbed purin metabolism, any one or all of which conditions may denote a faulty secretion in the liver.

The liver's relation to sugar metabolism has already been touched on, and it is possible that a cause of the increased amount of sugar in the blood in diabetes may at times be a disturbed internal secretion of the liver.

SPLEEN

From a histologic standpoint and from the standpoint of what is known of the physiology of the spleen, and from the fact that man and animals can live after the spleen has been extirpated, it seems doubtful if this organ furnishes an internal secretion.

When the spleen is removed, the lymph glands do its work. After such removal there is an increase of the lymphocytes in the blood and a decrease of the red corpuscles, as well as a reduction of the hemoglobin, but, in a few weeks, the blood becomes normal.

Splenic extract has been administered intramuscularly in capillary bleedings, and it has been thought to be of benefit in malarial poisoning.

KIDNEYS

It has not been proved that kidney preparations, or even raw fresh kidney, when administered, has any positive action, although it has seemed at times as though such kidney extracts did stimulate the secretion of the kidneys and had postponed final toxemias from kidney insufficiency.

PROSTATE

It has not been shown that the prostate has an internal secretion, or that its administration causes any symptoms, or any benefit in any pathologic condition.

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THE EVER-LENGTHENING CHAIN OF MEDICAL LITERATURE *

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A man attempting to carry a chain to which new links were being continually added would, in time, find himself fastened to a certain spot by the accumulation, his movements restricted to a circle, the size of which would be determined by the number of links his particular physical development would enable him to lift and carry. No matter how much the chain might be lengthened, the space over which he could move would be in no way extended. The added links would only serve to fasten him more securely to the spot. Medical literature is such an ever-lengthening chain. Hippocrates could arrange and join together all the existing links. Galen could lift and polish and use the whole of it. The schoolmen of the middle ages might count its links, and be somewhat acquainted with them all. But their attempt to carry the whole—the paralysis of original thought caused by trying to learn all that had been written by their predecessors—checked any further progress and prevented any important development in the healing art for centuries. Not until the profession ceased to attempt to carry the whole load of the dead past—not until the mastery of what other men had written ceased to be the ideal of medical education—not until men had turned from what their predecessors had observed of disease to look at it with their own eyes, like

* Address before the Denver Academy of Medicine, Oct. 28, 1908.

John Hunter, to learn from the body what none could teach in any language, living or dead—not until then did the renaissance of medicine occur.

Compare the products of the time when each scholar exhausted his strength in gaining an acquaintance with every treatise of medical literature, so that he was quite unable to add another fact or observation to the store, with the later period in which students acted on the belief that all was not yet discovered, and that new eyes would see new facts, new minds recognize new relations of cause and effect. Since the latter conception has prevailed the development of the medical sciences has gone on with increasing rapidity until medical literature is no longer represented by a single lengthening chain; but rather by a great number of chains, many of which are already too extended for any one mind to carry. Each department of medicine, each disease, each important medical theory, has a literature of its own that could not be fully mastered in a life-time. To know all that has been written about any one thing in medicine is impossible. To attempt to know it all is to give up one's life to a useless task, to the neglect of more important objects.

And yet, to know a great deal of what others have learned and accomplished is absolutely necessary to every one who aspires to a decent ability to practice medicine or surgery. The part that the most original and energetic student can observe and think out for himself is utterly insignificant compared with the whole mass of knowledge and the perfected technic that may be learned from others by the average member of our profession to-day. To have one's name associated with just one symptom, process, apparatus or theory that proves of permanent importance is to achieve exceptional fame. Leaving out of account all the learning of the past, how little can the most industrious worker, by a year of continuous, well-directed effort, contribute to the common fund of knowledge, compared with the total contributions during the year from the thousands of other workers who are daily dealing with similar questions in all parts of the world! How meager the results of the experience of any one in our profession compared with lessons that might be drawn from the experience of the whole! How trifling the new thoughts that anyone can contribute to the current literature of a year, compared with the sum-total of value which that literature contains!

I have not at hand any statistics of the annual additions to the medical literature of the world, but the College of Physicians of Philadelphia adds to its literature each year nearly 600 new books, of which 80 per cent. are first editions; and many of them are in two or more volumes. The number of American medical journals, according to the "American Medical Directory," is 259. The medical journals, published in other parts of the world, which achieve something beyond a local circulation, are more than 500. There are published each year probably more than 30,000 octavo pages referring to the subject of ophthalmology alone.

We have, then, the fact that the medical literature of the world, even the current medical literature of the day, quite apart from all of the past, is too vast to be mastered, or even superficially examined by the greatest possible individual effort. And we have the second fact that acquaintance with what the literature of the past contains is essential to the success of the physician or surgeon, while a similar acquaintance with the most recent achievements of his contemporaries is equally necessary for the highest efficiency of anyone practicing the healing art.

WHAT CAN WE DO ABOUT IT?

It will help toward an answer to this question to get clearly in mind what cannot be done. Medical literature cannot be divided into separate departments, so small that the average human mind would be able fairly to master whichever one of them was chosen. The new therapy with vaccines will probably control some of the most persistent and rebellious diseases of the eye, ear and nasal cavities. The expert use of the ophthalmoscope reveals some of the most definite, instructive and the earliest symptoms of general vascular disease. Neither the ophthalmologist nor the internist can afford to be ignorant of what the other is doing. The interrelation of the different departments of medicine could be demonstrated from every medical book or paper published. The oculist who never reads papers on internal medicine, and the man who considers himself a general practitioner, and skips literature relating to the eye, both make a grave mistake that leads into a narrow specialism—the sort of specialism that has always been recognized to be wrong, fatal to general professional progress and individual development, and ending in blind and inefficient routine.

No, we cannot each select a certain line of work and confine our reading to a single group of journals and books, ignoring the greater part of general medical literature. Such a course would inevitably lessen intellectual energy, originality and activity, even in the chosen field of work. The in-and-in breeding of ideas is as certain to lead to degeneration and sterility as the too close breeding of stock. Our best thoughts, our most important glimpses of the truth, will come to nothing unless we can follow them across the lines that ordinarily limit our daily work, and feed them with appropriate nourishment drawn from other fields; unless we can extend our conceptions by observations made from other points of view; unless we can support our thought with facts familiar to other workers, but which have not fallen under our immediate notice. Our problem is not to be solved by the splitting up of medical literature into separate provinces, no matter how wisely these might be planned, or how carefully outlined.

The problem is rather to work out methods by which the student fairly familiar with some small part of medical literature can, with the least unnecessary expenditure of time and energy, follow his line of thought into any other region of medical literature, so that the surgeon confronted by a dangerous or persistent infection can most readily ascertain what is to be hoped from a serum or vaccine therapy; or, when compelled to choose a course of action with regard to deep-seated cerebral disease, can gather all the assistance possible from the special literature bearing on the diseases of the eye, ear and nose.

The accumulation of medical facts has been going on from the time of Hippocrates, and before him on the papyri of Egypt; in the manuscripts of China and India, and on the tablets of Assyria. It goes on in the mind of every practitioner of medicine as it does on every page of medical literature. The time has come when mere accumulation is no longer of the greatest importance, if, indeed, it may not be actually harmful. Arrangement, classification, systemization, the bringing of every accumulated fact in relation with some plan by which the student can most readily and directly reach

the things he needs is to-day the extremely important problem confronting us.

The first step toward solving it is the establishment and maintenance of medical libraries. Books must be brought together before any intelligent plan for their effective arrangement and preparation for use can be put into operation. The modern library is everywhere and pre-eminently a cooperative concern. There are already in this country at least six and probably eight or ten medical libraries that have outstripped any private medical library that has ever been brought together. With the present rapid growth of medical literature it must be more and more true that the so-called private library is a partial, incomplete affair, a survival of the past in process of extinction. This fact is best appreciated by those who have most to do with medical literature.

I was a good deal surprised many years ago when Dr. S. Weir Mitchell said that he had just sent the last of his medical library to the College of Physicians of Philadelphia. But with wider acquaintance in medical literature, and a better understanding of the uses of books, I can see that it was the only reasonable thing to do. To have the books properly arranged and cared for, and especially to have, not only what had been his own, but what had belonged to a great many others made equally accessible, all of them in one place, and included in one arrangement, far more than compensated for the distance of a few blocks that the collection was removed from his office. The incompleteness of the private library, and the fact that when it runs above 1,000 volumes, it is scarcely ever kept in complete order, or is kept in order only at relatively great expense, the fact that it is a hundred times more difficult to consult ten separate collections than one in which all the available books are brought together, make the private library an extremely wasteful and inefficient instrument as compared with a library which represents cooperative effort.

We must not forget that a library is something more than and something very different from a mere collection of books. It consists of publications arranged with reference to some plan that makes them accessible. Ten thousand volumes without any intelligible arrangement would be worth very little more than so many tons of waste paper.

The private library, in so far as it is arranged at all, corresponds simply to the habits and development of its owner or caretaker. On that account it is of comparatively little use in other hands. Where father and son have been physicians, in every instance I have known, when the son came into possession of the father's library he promptly sold or gave away the great bulk of it, although it might be fairly supposed that the good it contained would have been more accessible to him than to other members of the profession. A medical library, to be an efficient instrument of the profession, must be thoroughly systematized on some general plan and cared for by a skilled attendant whose acquaintance with it constitutes the key required to unlock the treasures of medical literature.

The economy of cooperation in attempting to gain access to medical literature is enormous and obvious to anyone who gives the matter a moment's thought. Compare what can be done by individuals spending $25 a year for medical journals, and ten of them combining to share the journals that can be purchased with the resulting sum when combination has eliminated useless duplication. The library bureaus charge $5 a year for the bibliography of a single subject. The *Index Medicus*, for a little more, furnishes the bibliography of thousands of subjects connected with medicine.

It may be admitted that medical literature has grown too vast to be mastered by the individual. It may be admitted that any effort to become acquainted with it or to use it will be far more effective, far more economically applied by cooperation with others seeking the same end. But it may be urged that comparatively few doctors are interested in books, and that, while it is proper for these to go ahead and establish libraries and to take care of them, others of the profession have very little interest in the matter. It is the prevalence of this error that more than anything else hinders the progress of medicine and keeps down the efficiency, and therefore the influence and income, of the medical profession.

It is true that comparatively few men have the taste for wide, close, persistent reading. It is true that a large proportion learn more from experience and contact with their fellows. But these latter are in an especial degree dependent on their associates for the stimulation and fruitfulness of their intellectual processes. One bookworm, grubbing continuously in the library, visionary, impractical, and unheard of in the community, may do more to keep up the standard of professional information and activity of thought among his associates than the dozen men who see the largest number of patients or possess the best professional incomes.

The man who attempts to practice medicine without drawing on the experience of the profession in the past and without contact with the professional thought of his contemporaries remains ignorant and degenerates into the lower type of charlatan. If the minds are few that willingly devote their chief energies to the study of medical literature, it is all the more important to the profession at large that they should be furnished with the opportunities to do under the best conditions, this work, which, although recompensed only by the pleasure it gives the worker, is yet essential to the welfare of the profession as a whole. If we cannot be learned ourselves, let us have the benefit of association with those who are widely read.

It seems reasonable to expect that those whose usefulness in the community and whose ability to earn an honest livelihood comes wholly through the application of knowledge transmitted through medical literature, should contribute to establish and sustain a medical library, even though they have no great appetite for reading, and prefer rather to profit by contact with others who keep more closely in touch with the movements in medical thought. When this responsibility is shirked even by some who pose as teachers and leaders in the profession, who decline to give for this purpose even a fraction of what they contribute for churches, politics or social clubs, is there not need for active consideration and discussion of the relation the medical profession should bear to the swiftly augmenting literature of medicine?

A medical library develops slowly, especially during its earlier years. Time will be required to perfect it. It cannot be started too soon, or urged forward with too much energy. But in spite of all we can do we shall have to wait long before its size and efficiency will be what we desire. And if such a library is to be to us all that it might, when we have secured it, there is need meanwhile to learn to handle to better advantage the portion of medical literature already within our reach. Certain well-established principles should be applied to the writ-

ing of articles and the editing of journals and the compiling of books. But this is too long a story to take up here. It is of more immediate interest to consider plans for the systematic study of current medical literature in a cooperative way. The council of the academy has decided to arrange to give a part of each of the meetings, during the coming winter, to the presentation and discussion of the recent literature of some department of medicine or some particular subject of general interest. It is to be hoped that this will stimulate reading, and thought about the best methods of reading; that it will develop the power of getting at the kernel, with the least hindrance from the chaff, which constitutes such a large proportion in the vast bulk of the present medical literature.

1434 Glenarm Street.

THE CLINICAL SIGNIFICANCE OF AEROPHAGIA *

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One of the most common complaints of patients suffering from so-called indigestion is belching, or eructation, of gas. These patients frequently say that everything they eat "turns to gas" and they occasionally volunteer the information that they are afflicted with "gastritis." They invariably believe that the condition is due to the fermentation of food in the stomach, and in most cases they have been treated with restricted diet and a variety of drugs by physicians who also believe that a process of fermentation is responsible for the symptom. The purpose of this paper is to show that the gas which these patients expel is nothing but atmospheric air, in the vast majority of instances, and that the condition is directly dependent on the fact that these patients, all unconsciously, swallow the air with their food or between meals.

Aerophagia, or air-swallowing, is seen in its most striking form in hysterical subjects and in other individuals with well-marked neurotic stigmata. In such cases enormous volumes of air may be expelled. Instances are on record of patients who have belched over 5,000 times in twenty-four hours; and the amount of air eructated has been measured and found to exceed 200 liters. It is evident, in examples of this kind, that the quantity of air expelled is many times in excess of that which could possibly be produced by any conceivable process of fermentation. Furthermore, the air expelled in such cases has been collected and analyzed by several investigators, who have shown that it approaches in composition atmospheric air, being composed almost entirely of nitrogen and oxygen with an admixture of but a small quantity of carbon dioxid, the latter being derived from the decomposition of the carbonates in the food or in the alkaline saliva.

This interesting condition was first described in 1814 by Dejardin, who cites the case of a conscript who, in order to escape military service, swallowed large quantities of air which produced abdominal tympanites. Since that time a number of writers have maintained that air can be introduced into the stomach during respiration and especially during deglutition of saliva and food. Bouveret, in 1891, published an elaborate discussion of the mechanism of this affection and gave it the name "aerophagia." The condition, as it occurs in the extreme cases, has become a well-known clinical phenomenon. The eructations are almost always accompanied by more or less noise and the condition is a distressing one to witness.

The worst case I have seen was in a young newspaper reporter who had attacks when he would belch for several hours at a time. The act was accompanied by a to-and-fro movement of the head; each time the head came forward he would let out loud reverberating sounds that could be heard throughout the length of a large hospital ward.

I saw a second marked case two summers ago in a stout woman who was accosted by a negro while walking alone in a country road. She was greatly frightened and ran the distance of about three city blocks to reach her hotel. For a month after this experience she suffered intensely with abdominal distention and flatulence, so that she walked the floor a good portion of each night. The "cure" in this case was most interesting in that the condition absolutely disappeared in thirty-six hours after she was told that she was swallowing air. She had a "relapse" about a year later while undergoing treatment in the hospital for a nervous tic, and her abdomen became so distended that she reminded one of a toy balloon; it seemed as if she might rise out of the bed at any moment and go bumping against the ceiling. In this article, however, it is not my intention to discuss these extreme cases, but to show that air-swallowing is a very common affection and occurs to a greater or less degree in the majority of cases of the "false gastropathies" and other forms of so-called indigestion. A most excellent article on the subject of aerophagia, together with a very complete bibliography, is that by Spivak,[1] of Denver, Colo.

It is interesting to reflect for a moment that the phenomenon of swallowing air is not limited to man alone. Other animals, especially the horse, are subject to this affection. In the paper to which reference has just been made, Spivak quotes a communication from Mr. A. M. Farmington, Acting Chief of the Bureau of Animal Industry, U. S. Department of Agriculture, which deals at length with this subject:

> Indigestion, or dyspepsia (in the horse) was formerly attributed as the cause of air-swallowing, but later observers have more properly classed it with the vices, and in the same category with a considerable number of other whims, bad or vicious habits, resulting in most instances from idleness, which the horse, free from restraint, incessantly repeats without any other motive in reality than the gratification of desires which finally become imperative, but which always interfere with his complete serviceability. The modes by which the horse accomplishes the act of air-swallowing are known by the names of "cribbing" and "wind-sucking." Usually, in cribbing, the horse takes a point of support or contact for his upper incisor teeth, which causes an abnormal wear of the teeth, and the vice can thus be detected. Less frequently he cribs the air without taking a point of contact, and is what is called a "wind-sucker." To crib in the air, the animal begins a rapid up-and-down movement of the lips, then suddenly lowers his head—sometimes to the level of his knees—and swallows a mouthful of air; most frequently with the production of a gutteral sound, which has sometimes been wrongly interpreted as an eructation. When the effort is not successful, and is confined to the simple act of deglutition of saliva, the attempts are renewed until the desired satisfaction is secured.

* Read before the Medical Society of Virginia, at its Fortieth Annual Session, held at Roanoke, Va., Oct. 5-8, 1909.

1. Spivak, C. D.: Aerophagia and Flatulence, Med. Rec., New York, 1905, lxvii, 649.

Cribbing with support differs from the foregoing in that, in order to execute it, the inferior extremity of the head is supported or braced by means of the incisors upon a resisting body of some kind, such as a post, the bottom or edge of the manger, a window-sill, a cross-piece of a hay-rack, a shaft or pole, the halter or harness of his mate, etc. When subjects are prevented from cribbing on a support they will sometimes learn to crib in the air, and *vice versa*. A colt of a cribbing mare has been known to acquire the vice considerably before the age of one year. The muscles used in air-swallowing are not different, nor is the mechanism apparently different, except as above noted, from the act of deglutition generally. Remedies consist in the removal, so far as practicable, of objects that may serve as a base of support for the inferior extremity of the head, and the buckling of a strap around the neck just below the gullet. These methods, however, do not effect a cure, but only prevent the act while in use. Surgical operations have likewise failed to yield permanently satisfactory results.

The mechanism of air-swallowing in man has been variously described by different observers. Most of these agree that the air enters the stomach in the same way as food, i. e., by an act of deglutition. Other writers ascribe the condition to an aspiration or sucking of air. Whatever may be its exact mechanism, we know that it may occur in conditions of perfect health, particularly after rapid eating. Further than this, a great many of us can learn to swallow air after a certain amount of practice and bring it up again with loud eructations. Personally, I believe that the condition is always associated with more or less loss of tone in the muscular walls of the stomach, and this conception is readily understood by an analogy with the blood-vessels. We all know that the blood-vessels are hollow muscular tubes which are quite elastic and are regularly held in tone, or in a condition of partial contraction, by means of the vasomotor nerves. There is a most close relationship between the emotions and the state of vasomotor control. A trivial remark may cause an individual to blush so that the face becomes scarlet in color from the dilatation of every blood-vessel of the part. This is unquestionably due to an inhibition of the vasoconstrictors so that the nerves "let go their hold" and the pressure of the contained blood greatly increases the caliber of the vessels. Emotions of a different sort, such as fright, the sight of blood, etc., may cause the individual to become very pale, with almost blanched face. This may be due to a stimulation of the vasoconstrictors of the superficial blood-vessels, but more probably, I believe, to an inhibition of the vasoconstrictors of the large internal vessels of the trunk, a form of internal blushing, so to speak, so that the blood collects to a large measure in the splanchnic area with resulting pallor of the face and extremities. Now, in much the same manner, as I have elsewhere[2] suggested, it is most probable that certain states of nervousness produce an inhibition of the nerves having to do with the normal state of tone of the stomach musculature. Certain emotions, or reflex agencies, bring about a loss of tone in the walls of the stomach exactly analogous to the inhibition of the vasoconstrictor nerves which induces blushing. In this way there is produced a potential or actual relaxation of the stomach walls, so that the organ is easily inflated by air swallowed with the food or between meals. The eructations are produced by the irritable contractions of the stomach, while at the same time some of the swallowed air may be forced through the pylorus and give rise to intestinal flatulence.

In addition to this relaxation of the stomach walls there is probably another factor. Most patients with functional stomach disorders suffer from a sense of fullness after meals, which is probably associated with a hyperesthesia of the gastric mucous membrane. They ascribe it to an accumulation of gas, of which they wish to rid themselves by belching. They do not at first succeed in this, however, and they therefore go through the form of belching in which they soon swallow air and then bring it up again. Many patients with hyperacidity and sufferers from gastric ulcer secure temporary relief from the pain by taking a full dose of bicarbonate of soda. This is invariably followed by belching of gas, due to the carbon dioxid generated by the action of the hydrochloric acid of the stomach contents on the sodium bicarbonate. The relief is caused by the neutralization of part of the acid, but the patient attributes it to getting rid of the gas. Most neuropaths are conscious of their stomachs at times and to this is due a great many of their subjective symptoms.

I could not refrain from laughing at a colleague of mine who entered my office a few days ago with a very long face and a most dejected expression. When asked the cause of his trouble he said that he was suffering from a "terribly sour stomach." He may or may not have been comforted by my opinion that his stomach ought to be sour, inasmuch as it was secreting hydrochloric acid if it were in proper working order. He would have found himself in a far more serious condition if his stomach were not sour. As it turned out, his gastric secretions were normal and his trouble was not "indigestion," but a neurosis. The sooner we learn to appreciate the true nature of the various gastropathies the less formidable will become the task of getting our patients well.

In presenting the point in this article special emphasis is being laid on the possibility of swallowing air and the great frequency of its occurrence. It is not my intention to claim that all cases of flatulency are due to aerophagia. We know very well that actual fermentation does occur in the stomach and bowels, and in such cases foreign gases may be demonstrated, notably hydrogen and hydrogen sulphid. Careful study, however, will easily prove that cases of actual fermentation are exceedingly rare, and I do not believe that they occur except in the presence of definite obstruction with stasis, or in patients acutely ill with perversion of the gastrointestinal motility and secretions from either inflammatory or toxemic conditions.

Aerophagia is entirely independent of the character of the gastric secretions, and is to be classed as a neurosis. It is possible, as has been suggested by Stern,[3] that over-indulgence in outdoor sports, such as bicycle-riding, baseball, etc., may bring on an acute aerophagic condition, especially in untrained athletes who are mouth-breathers. Air-swallowing occurs relatively as frequently in patients with gastric subacidity as in those with an excess of hydrochloric acid, and is just as much a feature of organic stomach conditions as purely functional ones. An analysis of my records of cases, examined from July, 1908, to July, 1909, shows 74 cases of neurasthenia, most of whom were referred to me for symptoms on the part of the stomach. In 27 of these cases aerophagia was a prominent symptom. During

2. Vanderhoof, Douglas: The Rational Treatment of Indigestion, Old Dominion Jour. Med. and Surg., 1908, vii, 356-365.

3. Stern, Heinrich: The Clinical Importance of Aerophagia, New York Med. Jour., 1904, lxxix, 337.

this same period, 26 cases of gastric and intestinal neuroses were seen with 11 examples of aerophagia. Air-swallowing was a pronounced feature of 4 out of 7 patients with marked visceroptosis, in whom no evidence of actual fermentation of the stomach contents could be demonstrated. In this same year I saw 21 cases of gastric and duodenal ulcer, 8 of whom complained very much of this symptom. In 4 patients with carcinoma of the stomach, 2 suffered with it, while the other 2 were not at all troubled. An analysis of these 132 cases showed that 52 complained of flatulence or eructations. One or more gastric analyses were made in 35 of these 52 patients. Ten of these 35 cases showed a temporary or continued absence of free hydrochloric acid in the stomach contents after the test breakfast. The remaining number showed a normal gastric secretion with the exception of 4 cases of marked hyperacidity.

The symptoms that accompany aerophagia are those of the underlying functional or organic disease, plus the effects that the air in the gastrointestinal tract produces. In hysterical subjects the air may not even enter the stomach, but accumulate in the esophagus, from which it is audibly expelled after a short time. In other instances the swallowed air may pass through the pylorus and cause excessive intestinal flatulence. This appears to be quite common in neurotic women who often complain of more or less sudden "bloating" which compels them to remove their corsets or other tight clothing. Cases of aerophagia present an interesting picture when viewed on the fluoroscopic screen. When the patient makes an effort to expel the air from the stomach only a small portion of it is thrown out and the stomach walls are seen to contract violently, forcing the air-filled *Magenblase* up against the diaphragm. After one has seen this procedure repeated time after time at short intervals, it is not hard to conceive that such a violent internal upheaval should cause unpleasant symptoms.

The importance of recognizing the true nature of these cases accompanied by aerophagia is evident. The condition is almost invariably misinterpreted and it would seem that the possibility of air-swallowing is a clinical feature that is generally overlooked.

The treatment of aerophagia is most interesting in that many patients get well over night, so to speak, on simply having the true nature of their affection explained to them. The condition is essentially a symptom and not a disease, hence every patient requires a thorough physical examination in addition to a careful scrutiny of the gastrointestinal tract. The important thing is to find and treat the underlying cause, whether it be organic, functional or, as in some cases, simply a habit. In the purely functional cases it is a serious mistake to attempt to cure these patients by means of restricted diet and so-called intestinal antiseptics. What these individuals need is building up, and improvement often begins as soon as they are given forced diet with starches and sweets. It should be pointed out to the sufferer from aerophagia that the air he eructates is odorless, and that he brings up much more gas than could be produced by any form of fermentation of the quantity of food ingested. It is usually a simple matter to demonstrate to him that the symptom does not depend on the quality of food he eats, but that it is most prone to occur when he is worried, fatigued or provoked. A good many cases are seen in which the loss of nerve tone in the walls of the stomach is unquestionably reflex from pathologic conditions outside of the gastrointestinal tract. A competent oculist has been able to relieve a number of my patients by finding and correcting previously unsuspected errors of refraction.

Several drugs are of service in controlling the symptom when it arises. Probably the first among these is asafetida. While this drug is generally credited with having some special effect in reducing flatulency, I suspect very strongly that the true reason of its efficacy lies in the fact that patients stop belching after its administration because with each eructation they are reminded of the horrible odor of the drug. A good drink of whisky, taken undiluted, or a dose of aromatic spirits of ammonia, often relieves by stimulating the muscular walls of the stomach to contract and so expel the contained air. Other remedies that may be tried are chloroform water and turpentine. The use of the stomach-tube is rarely indicated in cases of chronic or recurrent aerophagia. Its employment is similar to the folly of prescribing a special diet, designed to be free from fermenting substances. Both of these measures are not only useless in preventing aerophagia, but, by their rigid persistence, serve to attract the patient's attention to his affection, and so tend to perpetuate or aggravate the habit.

SUMMARY

1. Aerophagia is a well-known clinical phenomenon, seen in its most characteristic form in cases of hysteria.

2. It occurs, however, in normal individuals, and is a most common symptom in functional stomach disorders.

3. In such cases its significance is very frequently misinterpreted as being due to some form of fermentative dyspepsia.

4. Actual fermentation in the gastrointestinal tract is a rare occurrence, and never gives rise to the excessive quantities of gas that are expelled by the aerophagic patient.

5. Aerophagia is a neurosis associated with a loss of tone in the muscular walls of the stomach, so that the organ is easily inflated by air swallowed with food or between meals.

6. It is entirely independent of the character of the gastric secretions, and occurs relatively as frequently in patients with anacidity as in those with an excess of hydrochloric acid.

7. It does not depend on what the patient eats, but on the condition of the stomach nerves when he eats.

8. The treatment of the condition, after excluding all organic diseases and correcting all possible reflex causes, consists principally in explaining to the patient that the gas he eructates is not due to fermentation, but that it is atmospheric air that he unconsciously swallows.

603 East Grace Street.

Tonsils Responsible for Relapses in Syphilis.—Guszman announced some time ago that spirochetes might often be found in regions previously the site of manifestations of the disease but now free from such. In a recent communication to the *Monatshefte für praktische Dermatologie*, L, 1910, 10, he states that the spirochetes may be found lurking in regions entirely free from manifestations at any time. The tonsils are especially liable to shelter them in this way, and he describes three cases in which spirochetes could be cultivated from the tonsils during the year after infection although there had been no symptoms on the part of the tonsils to draw attention to them. The positive findings in these cases, after energetic specific treatment had apparently aborted the disease, shows that freedom from symptoms is by no means synonymous with complete extermination of the spirochetes, and that their persistence at inaccessible points may be responsible for the flaring up of the infection later.

INFANT MORTALITY AND ITS REDUCTION, ESPECIALLY IN NEW YORK CITY *

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The awakening of the world to a consciousness of the immense sacrifice of infant life is recent. Most of it has come within the last twenty years.

The economic importance of this subject in certain of the European countries, especially Germany and France, has engaged the attention of the governments, and there the question of infant mortality is being studied with great interest. This has been forced on the attention since in all European countries a steadily declining birth-rate is evident. This decline in the last twenty-five years in eleven European countries has been from an average of 33.7 per thousand of population to 30 per thousand, or about 10 per cent. of births. The fall is least in Ireland, Norway and Sweden, and greatest in England, Germany, Italy, Austria and Hungary. No such decline is as yet apparent in this country, owing to the influx of immigrants into our large cities. But for this it would be great, as is indicated in the statistics of rural communities where a marked decline is reported. How great a factor immigration is in maintaining the birth-rate of our cities may be illustrated by comparing different parts of New York City. In the best residential portion, the present birth-rate is 4 per thousand of population; while in districts occupied chiefly by Italians and Russian Jews it is from 40 to 45 per thousand.

Infant deaths—i. e., deaths under one year—in different places and under different conditions form at the present time in civilized countries from 20 to 25 per cent. of all deaths. Erösss,[1] in 1894, collected data from thirteen European countries for a period extending from 1879 to 1892, the years not being always the same for each country, and found that in a total mortality of 28,660,733 the deaths under one year were 7,708,978, or 26.9 per cent. of all.

Taking the average estimate of many writers, it may be said that, of every 1,000 infants born, one-fifth die during the first year. While the impression prevails that the death-rate in infants has recently fallen considerably, this view is contradicted by some who have given special attention to this subject, by whom it is urged that the fall in the death-curve is simply due to the decrease in the number of births.

In order to arrive at a correct idea of the infantile death-rate, it must be considered from several points of view. I have studied it in several centers of population, but chiefly in New York City, (1) in relation to the total population, (2) in relation to the total death-rate, (3) in relation to births, (4) in relation to the estimated population under one year.

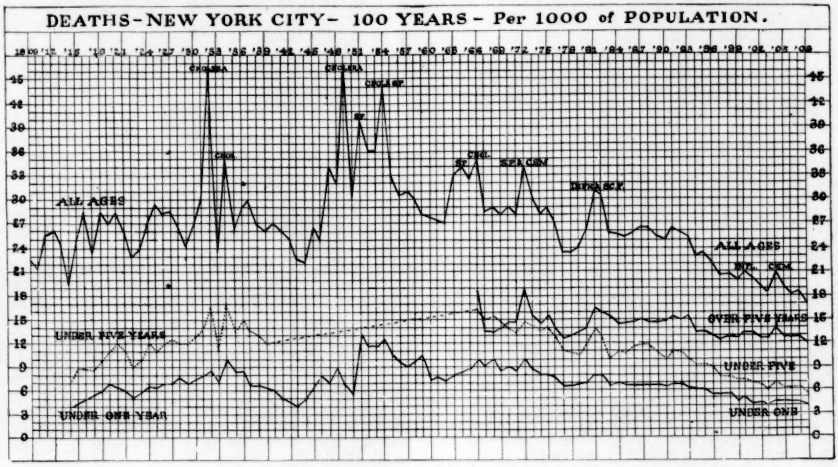

Chart 1.

The results of these studies are embodied in the accompanying charts. Chart 1 gives the death-rate for New York City (Boroughs of Manhattan and Bronx) for one hundred years. During this time the population has increased from 91,618 to 2,620,447; and the total deaths per year from 2,038 to 44,061. Thus, while the population has increased 29 times, the total deaths have increased but 22 times. The upper curve gives the mortality for all ages and indicates the city's health for the century. The figures for the earlier years are probably not absolutely correct; but they are taken from official sources and are the best obtainable.[2]

Beginning with a death-rate of about 22 per thousand, an irregular but steady increase is seen up to about 1866, when the general rate was about 35 per thousand; in exceptional years it was much higher than this. From that time a general decline is seen until 1908, when the

* Read in the Section on Diseases of Children of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909. Owing to lack of space, the article is here abbreviated. The complete article appears in the author's reprints.

1. Erösss: Archiv. f. Kinderh., 1894, ix, 249.

2. Documents of the Board of Aldermen, 1809-1842, were chiefly used for early New York records.

rate was but 17 per thousand, the lowest point in the century. The obvious explanation of this seems to be that the rapid increase of population with very little regard for sanitation brought about a steadily rising death-rate. With the beginning of modern sanitary regulations, however, a change soon became apparent. In 1866 the New York Health Department was organized. Largely through its activities and the advances in our knowledge of the methods of preventing disease there has occurred a reduction in the death-rate which, when we consider the constantly increasing concentration of population and the present condition of overcrowding, seems truly remarkable.

Up to the year 1854 the mortality line is a very irregular one, the sharp peaks indicating the great epidemics which visited the city. But these wide fluctuations gradually disappear, and since 1882, especially, the yearly variations are within comparatively narrow limits.

The year 1832, the first great rise, marks the great cholera epidemic; a similar one to-day would mean 35,000 deaths in the boroughs of Manhattan and Bronx. The years 1834, 1849, 1854 and 1866 were also cholera years. Epidemics of smallpox were witnessed in 1849, 1851, 1854 and 1865.

An epidemic of cerebrospinal meningitis occurred in 1872, and the same year smallpox was also prevalent.

The years 1881 and 1882 were years of great prevalence of both scarlet fever and diphtheria. The rise of 1901 was due to influenza and complicating pneumonia; that of 1904 marks the most severe year of the recent epidemics of cerebrospinal meningitis.

The line of infant mortality (under one year) follows in a general way that of total mortality, but shows fewer abrupt rises, since infants were less affected than were adults in the epidemics. At what period of life the reduction in the death-rate has occurred does not appear until we separate the deaths over five and the deaths under five, and again the deaths under one and deaths from one to five years.

From 1866 to the present the accuracy of the figures can, I think, be depended on.[3] Since that time, comparing deaths over five with those under five, we note that for the first few years, until about 1870, these mortality lines repeatedly cross each other, indicating that at that time half the total deaths, some years even more, were in children under five. A gradual divergence of these two curves is noted from this period. There is a slight fall in the line for over five years, but a very marked one in that for under five years. In 1908, at the end of the period, the death-rate under five is only half that over five, or one-third the total. Since 1866 the death-rate over five has fallen from 18.4 to 11.2 per 1,000; that under five has fallen from 16.4 to 5.8 per 1,000. It is, therefore, with children under five that the principal reduction in the death-rate has occurred.

Separating now the deaths under one year and those from one to five years, we find that a slightly greater reduction has occurred in the latter than in the former group. The death-rate for children under one has fallen from 10 to 3.8 per thousand; that for the ages one to five has fallen from 6.3 to 1.9 per thousand. In proportion to the population, therefore, the mortality for these ages is approximately one-third what it was about fifty years ago.

But since those who doubt the fact of a reduction in infant mortality argue that these figures are only one result of a declining birth-rate, there is shown in Chart 2 a comparison of the births per thousand of population for the same period. The birth-line shows an irregular but steady rise for the period. This is not, however, wholly to be trusted. The registration of births in New York City is by no means as uniform as are the death reports, or as the birth records of many European cities.

The Registrar of Vital Statistics of New York estimates that for the early part of the period under consideration only about 70 per cent. of the births were recorded, while at the present time only about 92 per cent. are recorded. Even making this correction, we have a birth-line which tends slightly upward, to compare with a death-line which tends steadily downward. The rise in the birth-curve is due, as already mentioned, to the great influx of foreign population.

Precisely the same result is shown if we take another standard of comparison, viz., the deaths under one year and the population for this age. The records for the population under one year are available since 1888. These are derived from the actual enumeration in census years and are estimated for the intervening periods.

In 1888 the deaths under one year were 10,411, or 24.4

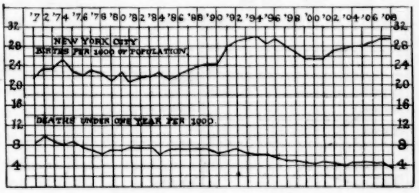

Chart 2.

TABLE 1.—STATISTICS OF POPULATION AND DEATH-RATE OF CHILDREN IN VARIOUS LARGE CITIES

City.	Year.	Population.	Population under 5 yrs.	Per cent. of children to population.	Deaths under 5 years.	Deaths under 5 yrs. per 1,000 of population under 5 yrs.
New York..	1880	1,209,268	140,673	11.6	14,650	104
	1890	1,631,232	189,760	11.6	16,305	85
	1900	2,053,979	233,537	11.3	15,646	66
	1907	2,541,084	291,208	11.4	15,645	53
Boston	1880	362,839	29,649	8.2	3,349	112
	1890	448,477	40,001	8.9	3,349	83
	1900	560,892	57,361	10.2	3,752	65
	1907	609,757	72,166	11.8	3,160	43
Chicago ...	1880	503,298	.....	...	5,639	95
	1890	1,200,000	140,783	11.7	9,954	70.7
	1900	1,698,575	190,355	11.2	8,282	43
	1907	2,107,620	213,713	10.1	10,077	47
Philadelphia.	1880	846,980	91,544	10.8	6,594	72
	1890	1,046,964	103,847	9.9	7,913	76
	1900	1,293,697	.....	...	8,078	...
	1907	1,500,596	147,988	9.8	7,669	51
London ...	1880	3,771,139	497,044	13.1	36,220	72
	1891	4,221,452	501,558	11.8	33,340	66
	1900	4,589,129	546,570	11.9	31,139	56
	1905	4,684,794	518,794	11.0	24,838	47
Paris	1880	2,239,938	148,601	6.6	17,159	115
	1891	2,424,705	150,490	6.1	14,048	93
	1900	2,511,629	.....	...	8,966	...
	1905	2,722,731	170,694	6.6	8,617	50.4
Berlin	1880	1,123,749	183,060	16.2	19,249	105
	1890	1,579,524	164,370	10.4	17,630	107
	1900	1,864,203	.....	...	15,498	...
	1907	2,096,318	183,441	8.8	10,833	59
Vienna	1880	721,016	58,023	8	8,219	141
	1891	1,378,530	130,808	9.4	15,610	110
	1900	1,656,662	160,233	9.6	13,650	85
	1905	1,897,630	213,884	11.2	13,282	62

3. Reports of the New York Health Department, especially 1906.

per cent. of the estimated population under one year. In 1908 the deaths under one year were 10,073, or 15.1 per cent. of the estimated population under one year.

The evidence seems, therefore, conclusive that during the period of the last twenty-five to thirty years there has been in New York a very great and steady reduction in the mortality of infants and young children, that this has been both relative and actual, and that the actual mortality is now only about one-half what it would have been had the old conditions prevailed.

Similar conditions have been found to exist, but to varying degrees, in all the other large cities which I have studied—Chicago, Philadelphia, Boston, London, Paris, Berlin and Vienna. Table 1 gives for these cities since 1880 the variations in the total population, in the child population (under five years), the deaths under five, and the deaths per thousand of child population.

The most significant figures in the table are those indicating the change in the death-rate of children compared with the child population in the period studied. This is graphically shown in Chart 3.

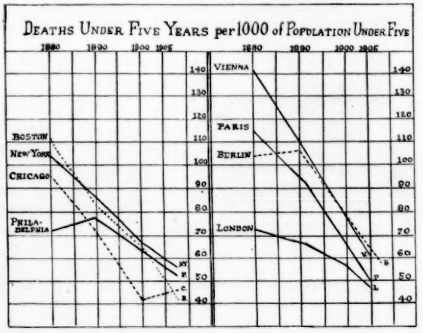

Chart 3.

The figures for deaths under one year were not available for all the cities hence I have used those of deaths under five years for the comparative study. This is quite proper, since the deaths under one year bear everywhere a fairly constant relation to the deaths under five; i. e., two-thirds, or 66 per cent. They are very slightly less than two-thirds the total for the beginning of the period and slightly more than two-thirds the total for the latter part of the period. In other words, the fall in the death-rate from one to five years has been slightly greater than that under one year.

Such a correspondence in results in all these different places is too close to be accidental. It is certainly striking that in recent years the death-rate of children in eight large cities of the world is so nearly the same. Different agencies have no doubt operated in different cities to bring about this result. It is not possible from my own investigations to state in detail what these have been.

It is also rather striking that at the present time the ratio of the child population (under five years) to the total population is nearly the same (a little over 11 per cent.) in New York, Boston, London and Vienna. It is much lower in Berlin, but is lowest of all in Paris.

All the advances in modern medicine have, after all, done very little to reduce adult mortality. It is true that cholera and smallpox have been practically eliminated, that typhoid has been curbed and tuberculosis reduced, but pneumonia, cardiac disease and Bright's disease are steadily increasing. Adult deaths are inevitable, but infant deaths are very largely preventable, and herein is the hopeful sign of this problem.

CAUSES OF INFANT MORTALITY

The most fundamental cause of high infant mortality is infancy itself, the period in which the organism has the feeblest resistance to adverse conditions. The younger and more delicate the infant, the greater the perils that surround it. Hence we find, as we would expect, that the highest mortality of the first year is during the first month, and that the death-rate steadily decreases with each advancing month of life.

Chart 4, from figures of Westergaard,[4] Berlin, for the years 1893 to 1897, shows that 25 per cent. of the deaths of the first year occur in the first month and 47 per cent. during the first three months.

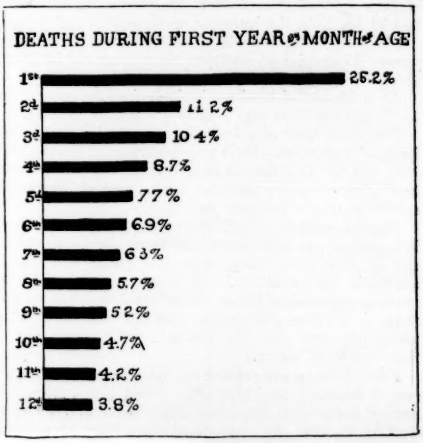

Chart 4.

TABLE 2.—PERCENTAGE OF DEATHS UNDER ONE YEAR FOR THE DIFFERENT AGE PERIODS

	London.	Berlin.
First day	9.64	....
Second to seventh day	11.09	....
Second week	5.08	....
Third week	4.08	....
Fourth week	3.78	....
First month	34.6	25.3
Second month	11.4	11.3
Third month	8.4	10.4
Fourth month	6.9	8.7
Fifth month	5.9	7.7
Sixth month	5.25	6.9
Seventh month	5.20	6.3
Eighth month	4.8	5.7
Ninth month	4.7	5.2
Tenth month	4.5	4.7
Eleventh month	4.2	4.2
Twelfth month	4.1	3.8

In Table 2 these Berlin figures are compared with those of London[5] for 1907. They correspond in a very striking manner. The London figures, moreover, indicate how large a part of the first month's mortality is in the first week. This group, which forms over 20 per cent. of the deaths of the first year, is largely made up of hopeless cases.

4. Pfaundler and Schlossman: Diseases of Children; American Translation, i, 294.
5. Reports of the Registrar-General, London.

Brothers,[6] writing in 1896, is authority for the statement that in four years, 1889-1892, there were recorded 173,126 births. During the same period there were 16,888 deaths within the age of one month, not including premature births. Making the estimated correction for the incompleteness of birth returns already referred to, it would appear that at that time about 8 per cent. of children born did not survive the first month.

Erösss[1] in 1894 gives even higher mortality figures for the first month. From figures collected from sixteen large European cities, including 1,439,056 births, he states that 9.5 per cent. died during the first four weeks, and that during this time the number of deaths was as great as in the remainder of the first year. A great reduction in the mortality of this first month has been brought about since the time of which he wrote by the general introduction of aseptic methods in obstetrics, sepsis in the new born being once a common cause of death.

A certain proportion of infants born die because of premature birth, or a feebleness at birth too great to support an independent existence. Alcohol, vice, syphilis and some other forms of inherited disease are factors of considerable importance in the production of these conditions. Again, there occur certain malformations of heart, intestines or brain which are incompatible with normal development or even with life. A certain number of infants perish from unavoidable accidents at birth. But these combined groups of the cases which might be called hopeless probably make up not more than 25 per cent. of the total.

The loss of infant life is, in large measure, due, not to inherited disease, malformations or congenital feebleness, but because of the failure to furnish the proper conditions not only for healthy growth, but even for life itself. These conditions are proper food, suitable housing and intelligent care. Most infants die primarily, therefore, not from inherent causes, but from accidental and, therefore, preventable ones.

The fundamental causes of infant mortality, as we may call them, are mainly the result of three conditions—poverty, ignorance and neglect. As direct results of poverty we have bad housing and overcrowding in cities, the necessity for mothers to work both late in their pregnancy and very soon after confinement, insufficient food to nursing mothers, improper food for children deprived of mother's milk and the inability to escape the consequences of bad surroundings, such as excessive heat in summer or cold in winter. Ignorance of the simple facts of hygiene and feeding in those to whom the care of such children is intrusted is a factor of immense importance, quite as disastrous in its consequences as is the use of bad milk or other improper food. Neglect may be due to intemperance or vice in the parents, but often is one of the results of poverty.

Infant mortality is much greater everywhere in cities than in the rural districts; but it is not the mere fact of city residence, but because in cities are combined all the other important conditions which cause a high infant mortality. The death-rate, therefore, does not depend on the size of the city, but on the hygiene, sanitation and the character of the population.

The following figures are from the U. S. Census of 1900, and give the death-rate of infants under one year per thousand births.

New York State	159.8
New York City	189.4
Nashua, N. H.	261.0
Lowell, Mass.	275.5
Fall River, Mass.	304.7
Mobile, Ala.	344.5
Savannah, Ga.	387.5
Charleston, S. C.	419.5

Density of population is, therefore, only one of many causes affecting the infant death-rate. Nashua, Lowell and Fall River are typical factory towns, but not large ones. A similar very high death-rate is seen in factory towns in England. The excessively high death-rate of the Southern cities is doubtless explained by the large colored population. While in general the figures above given point the truth, they should not be too implicitly believed. Conditions are certainly bad, but I do not think they are so bad as indicated, for the reason that in most of our cities and towns the registration of births is notoriously imperfect, while that of deaths is usually reliable.

All who practice medicine among children and all who study the question of infant mortality statistically are struck with the marked contrast between the death-rate of the children of the poor and those of the rich. Clay estimates that in England in the aristocratic families the mortality of the first year is 10 per cent.; in the middle class, 21 per cent.; in the laboring classes, 32 per cent. This difference in the infant mortality of the various classes is most striking in the case of acute intestinal disease. Halle states that of 170 deaths from this cause investigated in Graz in 1903 and 1904 there were 161 among the poor, 9 among the well-to-do, and none among the rich. It may not be true in adult life, but in infancy money may purchase not only health, it may purchase life, since it puts at the disposal of the infant the utmost resources of science, the best advice, the best food and the best surroundings for the individual child. To relieve, or even greatly to diminish, infant mortality these basal conditions of modern city life—poverty and ignorance—must be attacked.

HOW THE CAUSES OPERATE

Having glanced at the fundamental or primary causes it is interesting in the next place to see how these operate in causing the deaths of infants. This would be a comparatively simple matter if the actual cause of death in each child under one year were known. But mortality records are not so complete as one could desire for such a study as we are making. The return made to the health department often covers only the last thing which happened to the child; the real causes which are back of this terminal condition cannot be ascertained from the records. Thus, a death is recorded as due to acute diarrhea in summer, but the facts very often are that a condition of malnutrition or marasmus with disturbed digestion due to improper feeding had existed for weeks or months before the final two or three days of acute illness, and were the real important factors. It is not easy from the classification made in the records of vital statistics to get at these fundamental causes which we are now seeking, for we wish to learn not what the last illness chanced to be, but why it was that the child succumbed to that particular acute disease.

Again, death certificates are of necessity accepted from a great number of persons who possess very indifferent qualifications for correct diagnosis, and many faulty ones are thus recorded from which one must be careful in drawing inferences. Bearing in mind, how-

6. Brothers: Infant Mortality During Child-Birth and Its Prevention, 1896.

ever, the foregoing points, much information can still be gained from a study of the causes to which death in infancy is ascribed in the records of our cities.

In Chart 5 are represented the most important groups making up the mortality of the first year in cities generally, combining the records of New York and Philadelphia for two years, Boston for three years and Chicago for one year, making a total of 44,226 deaths under one year.

Looking at this chart even casually one is at once impressed with the paramount importance of three groups: (1) the acute gastrointestinal; (2) prematurity, congenital debility and marasmus; (3) acute respiratory diseases. Together they make up 72 per cent. of the total infant mortality.

Let us glance at these groups separately. The group "acute gastrointestinal disease" is the largest and is so in nearly every large city in the temperate zone. The percentage of deaths from this cause is considerably higher in Chicago and Philadelphia than in New York,

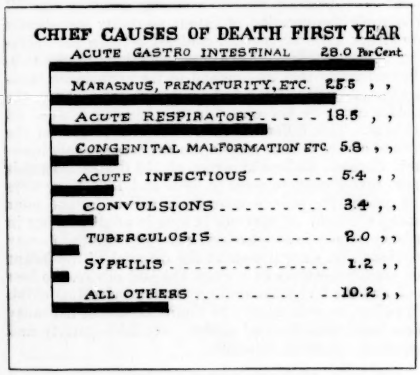
CHIEF CAUSES OF DEATH FIRST YEAR
ACUTE GASTRO INTESTINAL 28.0 Per Cent.
MARASMUS, PREMATURITY, ETC. 25.5 , ,
ACUTE RESPIRATORY 18.5 , ,
CONGENITAL MALFORMATION ETC 5.8 , ,
ACUTE INFECTIOUS 5.4 , ,
CONVULSIONS 3.4 , ,
TUBERCULOSIS 2.0 , ,
SYPHILIS 1.2 , ,
ALL OTHERS 10.2 , ,

Chart 5.

while in Boston it is lowest of all. The curve of diarrheal diseases is so important that it practically controls the curve of infant mortality. This group embraces acute gastritis, gastroenteritis, all forms of acute diarrhea, dysentery and cholera infantum and makes up the largest part of the immense summer mortality. It is these diseases which cause regularly each year the sharp rise in the death curve in July and August.

Chart 6 shows the deaths in New York City for the past five years by the different months in infants under one year and in children from one to five years. The regularity of the summer rise is very striking. It is most acute during the month of July and most frequently the curve touches the highest point during that month.

In children from one to five years old, no such summer rise in the death curve is seen. At this age the highest mortality is in the late winter and early spring, usually the months of March and April. This is due in New York to the prevalence of acute respiratory diseases and acute contagious diseases, especially measles.

Turning now to the acute gastrointestinal diseases of the first year, we note that the most important underlying causes are three: atmospheric heat, method of feeding, city residence. The scope of this article does not permit of a discussion of the ways in which a high atmospheric temperature causes diarrheal diseases. The fact is too well known to need argument. There is the closest possible connection between the frequency and fatality of diarrheal disease and methods of feeding. Hope of Liverpool has shown that in 1,000 breast-fed infants under three months there were only 20 deaths from diarrheal disease; while of 1,000 bottle-fed infants under three months there were 300 deaths. Of 1,000 fatal cases of diarrheal disease investigated by the New York Health Department in 1908, only 90 had previously been entirely breast-fed. Newsholme gives almost identical figures for England, viz.: 10 per cent. of deaths from diarrheal disease in breast-fed infants and 90 per cent. in bottle-fed infants.

But that it is not artificial feeding *per se* which is to be blamed is shown by the relatively small proportion of deaths in the artificially fed that are seen among the well-to-do. Among the poor it is not simply the method of feeding which is responsible for the results, but the other conditions which are apt to accompany such feeding, such as bad surroundings, lack of maternal care (many of these children are illegitimate) and even gross neglect. Besides, we must reckon with bad milk or other improper food and, even when the milk-supply is good, bad methods of feeding due chiefly to ignorance.

It is my own belief that ignorance in feeding causes quite as many deaths as bad milk. But ignorance in matters of feeding is by no means confined to the poor. Even the best milk, badly handled in the home and improperly fed, is capable of doing great harm.

City residence is an important factor in the production of diarrheal disease. In proportion to the population there are three times as many deaths from diarrheal diseases in the cities of New York State as in the rural districts. But in some of the smaller factory cities, Troy, Cohoes and others, the mortality is higher than in New York City, showing that other unhygienic conditions may be even more important than density of population.

Prematurity is not classed separately in New York City or in Boston; but statistics for New York State for 1907 and 1908, Philadelphia for 1907, Chicago for 1906, Washington, D. C., for 1906 and London for 1907, combined, show that in a total infant mortality of 81,680 there were 13,757 cases, or 16.8 per cent., in which prematurity was recorded as the cause of death. This is, therefore, a factor of the first importance, since it is apparently the cause of about one-sixth the deaths of the first year.

In the second part of this great group, figuring in statistical tables as marasmus, malnutrition, congenital debility, inanition, etc., death is due in part to faulty hygiene and care, but still more to the manner of feeding. The manner of feeding is, therefore, a factor of the first importance in infant mortality. Artificial feeding is the chief etiologic factor in these first two groups, which taken together make up 53.5 per cent. of the total mortality of the first year.

The extent to which artificial feeding is practiced in New York City at the present time is a subject on which it is difficult to obtain exact information. From data collected through various agencies, the Health Department estimates that at present about 85 per cent. of the infants in New York are breast-fed and about 15 per cent. are bottle-fed. These data are gathered chiefly from the tenement districts and seem to me rather low for the artificially fed. I believe that, for the entire population, 18 to 20 per cent. would be nearer the truth.

The difference in the mortality of these two classes is most striking. The Health Department estimates that 85 per cent. of all infantile deaths are in those artificially fed. This statement is borne out by figures drawn from other sources. Tyson states that of 150,000 infantile deaths in Great Britain 75 per cent. were in those who were artificially fed. Kober states that of 54,047 infantile deaths investigated at home and abroad with reference to feeding 86.6 per cent. were artificially fed. In Munich the mortality in breast-fed infants is stated to be 15 per cent., while in bottle-fed infants it is 85 per cent. In Würtemburg the mortality of breast-fed infants is placed at 13 per cent.; that of those artificially fed at 42 per cent. The whole question may be summed up in a few words:

Breast-feeding requires but little experience and may be very successfully done even by those with a very low grade of intelligence and among the poor; but artificial feeding is not successful unless carried on with much intelligence and experience and at the same time with a certain amount of money to secure reliable materials, especially pure milk.

The child's nutrition, dependent largely on the manner of feeding, affects profoundly the mortality from every form of acute disease. Deaths attributed to convulsions are almost all of them in children artificially fed. It is easy to see, therefore, why it is that the kind of feeding is so important a factor in mortality figures.

Turning now to the acute respiratory diseases, especially bronchitis and pneumonia, we note that deaths from these causes form 18.5 per cent. of our infant mortality in the four cities considered. The percentage is considerably higher in New York and Chicago than in Philadelphia and Boston. That the percentage of New York is higher than other cities is, I think, to be explained in part by the greater congestion of our population. Overcrowding affects to some degree all diseases, but much more those of the respiratory tract—bronchitis, pneumonia and tuberculosis.

Recently an infant was admitted to my wards in the Babies' Hospital suffering from his third attack of pneumonia within a few months. It was learned that he was one of a family of ten, all living in a single room. Such overcrowding inevitably leads to a great increase in acute respiratory diseases in the winter. Fuel is scarce and expensive and doors and windows are kept tightly closed to keep out the cold. No such thing as ventilation exists. Then it is that all the evil effects of overcrowding are intensified. The spread of common colds and influenza is certain. When neglected or when proper care or treatment is impossible, these quickly lead to severe bronchitis and pneumonia. It is the infants who feel most keenly the effects of such unfavorable conditions, since they are continually subjected to them, besides being the most susceptible members of the household.

The subject of influenza is one which deserves something more than passing mention. Ever since the general epidemic of 1891, it has prevailed regularly every winter season. Although it appears as an insignificant factor in mortality tables, it is one of major importance. In the Babies' Hospital during the past winter cultures were taken from throats of nearly all cases of severe bronchitis and pneumonia during life and from the lungs after death, and it was exceptional to find a protracted case of either of these diseases which was not complicated by influenza infection. Aside from its association with diseases of the lungs, influenza plays an important part in the production of diseases of the upper respiratory tract, the nasopharynx, ears, mastoid, etc.

The importance of acute respiratory diseases as a factor in infant mortality has greatly increased during recent years. Chart 7 gives a comparison between the mortality in New York City from bronchitis and pneumonia and that from diarrheal diseases since 1880. The curve for diarrheal diseases shows a steady decline, that

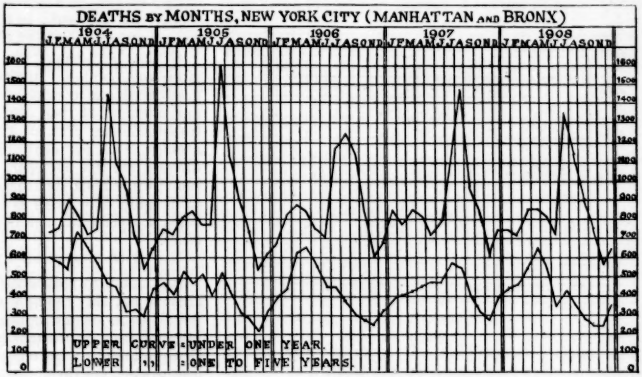
DEATHS BY MONTHS, NEW YORK CITY (MANHATTAN AND BRONX)
1904
1905
1906
1907
1908
J F M A M J J A S O N D
UPPER CURVE = UNDER ONE YEAR.
LOWER " = ONE TO FIVE YEARS.

Chart 6.

for acute respiratory diseases quite as regular a rise. For this increase the prevalence of influenza is, I believe, largely responsible. For the first three years of this period the deaths from diarrheal diseases for Manhattan and Bronx were more than twice as many as the deaths from bronchitis and pneumonia. A gradual approximation of these curves is seen until in 1902 the deaths from acute respiratory diseases exceeded those from acute gastrointestinal diseases in 1903. If this tendency had continued, in a short time acute respiratory diseases would have taken first place in the infant mortality figures. During the years 1907 and 1908, however, the curve for intestinal diseases again rises, while the curve for respiratory diseases declines. The reason for this is not quite apparent unless it is that the gospel of fresh air which has been so vigorously preached is beginning to bear fruit.

It is my belief that the figures for tuberculosis given in the mortality tables of the different cities do not represent the part which that disease plays in infant mortality. The mortality figures of the Babies' Hospital for ten years show that in that institution 5.6 per cent. of the deaths under one year were from tuberculosis, or nearly three times as many as the proportion in New

York or in the four cities combined. This difference I believe to be only a consequence of more accurate diagnosis in the hospital. There is no doubt that much infantile tuberculosis is overlooked in general practice. The city figures show a very considerable number of cases diagnosticated "simple meningitis," nearly all of which are surely tuberculous. Again, the tuberculin tests employed in the hospital and the careful search for tubercle bacilli show many pulmonary cases to be tuberculous, which in outside practice are regarded as cases of simple bronchopneumonia. These facts have operated to reduce the percentage of hospital deaths from nontuberculous acute respiratory diseases to 15.3 per cent., while in the cities generally it stands at 18.5 per cent. The hospital figures I believe to be fairly representative of the frequency of tuberculosis in infancy, since in most respects other than those mentioned they are in substantial agreement with mortality figures of the city as a whole.

The prevalence of tuberculosis is closely associated with overcrowding and insanitary dwellings. The exciting cause in infants is usually exposure to adult cases

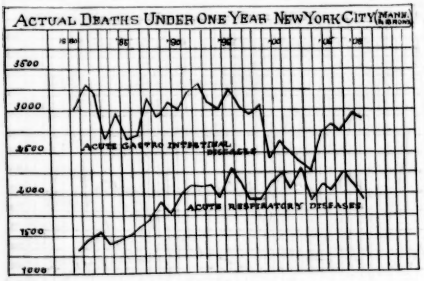

Chart 7.

of pulmonary tuberculosis. It is to the sick father, mother or other member of the household that the care of the baby usually falls when the healthy members of the family are away at their work. Such close contact usually leads to infection of the infant. To such exposure we have been able to trace definitely nearly one-half of the cases of tuberculosis in infants admitted to the Babies' Hospital in recent years, and it certainly existed in a very much larger number than we were able to demonstrate it.

Congenital malformations in most vital statistics include cases of chronic hydrocephalus as well as affections of the heart, intestines, etc. With these have been grouped injuries at birth and certain other conditions peculiar to the new-born. The proportion is about the same in the different cities studied as nearly as one can estimate by the classification adopted.

That acute infectious diseases play so small a part, 5.4 per cent., in infant mortality is somewhat surprising to one who studies the figures for the first time. Whooping-cough is altogether the most frequent one and makes up nearly half the total in this group. Next in order come diphtheria, measles and erysipelas, all others being relatively infrequent in the first year.

Convulsions are not classified as a separate cause of death in some of our cities, e. g., in Boston. They should not be in any. Many of the cases so classed belong in the acute diseases of the gastrointestinal tract, others are doubtless instances of status lymphaticus, tetany or tuberculous meningitis.

Syphilis is put down as causing 1.2 per cent. of the deaths. The figure is so nearly the same in all the cities that it ought perhaps possibly to be accepted. But syphilis is responsible for many deaths which go down in records as due to prematurity. Besides there are deaths ascribed to marasmus which are due to syphilis.

The group "all others" includes all nervous diseases except tuberculous and cerebrospinal meningitis and convulsions, diseases of the heart, liver and kidney, deaths by violence or accident and a large variety of others that scarcely deserve mention.

While in the four American cities studied there is a general agreement regarding the importance of the various factors, there are some interesting differences. The figures for acute gastrointestinal diseases are highest for Chicago, 32.9 per cent.; almost the same, 32 per cent., for Philadelphia; considerably lower for New York, 26.8 per cent.; lowest of all, 19.5 per cent., for Boston. Acute respiratory diseases cause the greatest number of infant deaths, 20.9 per cent., in New York; almost as many, 19.8 per cent., in Chicago; while in Philadelphia the percentage is only 15.6 and in Boston only 15.1.

Greater differences are seen between our American cities and London. In that city the percentage of acute gastrointestinal diseases is only 12.9, as compared with our average, 28 per cent. Acute respiratory diseases cause 21.3 per cent. of the deaths, compared with our average, 18.5 per cent. Deaths from acute infectious diseases are 9.5 per cent., against our average, 5.4 per cent.; while more striking still is the fact that tuberculosis is more than twice as common, the deaths from this being 4.3 per cent., against our 2 per cent. in American cities.

THE REDUCTION OF INFANT MORTALITY

Any effort to reduce infant mortality must take into account not only the final or terminal diseases which are put down as causes of death, but the important underlying causes. Let us now take up the different groups of cases and see by what measures it is possible to lessen the death-rate from them.

To affect prematurity, its underlying causes must be discovered and removed. Syphilitic women should, of course, receive treatment during pregnancy. But even for other cases something can be done. Pinard in 1895 made observations on 1,500 women in France. In the first group of 500 who worked up to the time of their confinement, the average weight of the infant at birth was 3,010 gm. (6½ pounds); in 23.9 per cent. the children were born more than ten days before term. In a second group of 500 who spent ten days in retreat before confinement, the average weight of the infants at birth was 3,290 gm. (7¼ pounds); where they were in such a place for a longer period than ten days the average birth-weight was 3,366 gm. (nearly 7½ pounds). In the last two groups only 12.6 per cent. of the infants were born more than ten days before full term.

A period of rest to the mother before confinement has then a very direct and important influence on the completion of pregnancy and hence on the weight of the child at birth, both of which factors are important in relation to the child's vitality. This is a strong argument for prematernity hospitals or retreats. It also points to the necessity of some law which shall prevent women from working in factories for a certain period, from two to four weeks before delivery. But it is not in factories alone that women are obliged to work hard,

sometimes up to the very hour of their confinement, and again within a few days after it, and this class also needs to be protected and relieved.

Again, there is urgently needed proper hospital provision for the care of premature infants. They are exceedingly difficult patients to deal with, requiring the most skilled nursing and medical care. Almost no provision is made for their care in existing institutions. In the homes of the poor nearly all die. This factor in infant mortality is one which has too long been ignored. In cases of true congenital debility the conditions and the needs are essentially the same as in premature infants.

To reduce the mortality from marasmus and acute intestinal diseases, the important causative factors, food, methods of feeding, summer heat and surroundings, must be kept in mind.

Among the poor and ignorant, breast-feeding is by far the most effective measure that we possess in preventing intestinal diseases in summer. Little or nothing has been done systematically in this country to encourage maternal nursing. France has taken the lead in this as well as in other organizations for the protection of infancy. As long ago as 1876 the importance of this subject was recognized and the *Société pour la propagation de l'allaitement maternel* was organized. Another society, called *Oeuvres des mères de famille* exists, whose object is to furnish employment at home to nursing mothers to relieve them from the necessity of leaving their infants to work in shops and factories.

While desirable for the greater part of the first year, maternal nursing is of special importance during the early weeks of life to enable the infant to make a start. England, Germany and Switzerland have had for many years laws forbidding the employment of women in factories for a certain number of weeks after and in some countries also before confinement. But such prohibitory laws are not effective unless they are supplemented by some adequate provision, public or private, for the relief of mothers whose necessities compel them to work under such circumstances. Such measures have been officially taken in Germany and Austria. Assistance by finding proper work at home, furnishing special food—milk, eggs, etc.—to nursing mothers among the poor would in our own city bring a large return. As yet this important subject, so far as I can ascertain, has received little or no attention in this country. In New York we have been so much engaged in the furtherance of the best methods of artificial feeding that means of promoting maternal nursing have not received due consideration. We must be on our guard lest with our day-nurseries and milk depots and other means we do not encourage artificial feeding and discourage maternal nursing.

In this connection a word should be said against wet-nursing as a regular practice where maternal nursing is impossible. While this method of feeding is sometimes necessary, it should not be employed when artificial feeding can be successfully conducted, as with the great majority of children of the well-to-do it can be. The general employment of wet-nurses tends, on the whole, to increase infant mortality rather than reduce it, owing to the excessively high mortality of wet-nurses' infants.

Next to maternal nursing should be placed good artificial feeding when breast-feeding is impossible, and this not only as a means of preventing acute gastrointestinal disease, but also that other group of cases quite as great, classed as marasmus, general debility, etc.

For good artificial feeding several things are necessary. The first is intelligence, which is more important even than the best materials. The next is a pure milk-supply, which must be carefully safeguarded until it reaches the home. The value of what has been done by the Department of Health in New York City and in other municipalities can hardly be overstated. But it is a question whether along these lines very much more can be accomplished in the reduction of infant mortality than is now being done.

General pasteurization of a city's milk is a procedure of doubtful utility, but there can be no question regarding the advantages of the home pasteurization of milk in summer, especially among the poor. So much evidence has already been adduced in its favor that it need not be discussed here. When no ice is available, sterilization by boiling is safer than pasteurization. The heating of the milk fed to infants in summer by one or other methods is now very general among the tenement population of New York and has been a factor of no inconsiderable importance in the reduction of infant mortality in the hot months.

Further improvement must come through better artificial feeding, especially among the poor. Ignorance and neglect are more difficult to reach even than a general milk-supply. But so long as it remains true that over four-fifths of the deaths in the first year are in children who are artificially fed, the direction which effort must take to bring about a change is clear.

By far the most effective agency is instruction in connection with the distribution of milk through the milk depots. Here the mother or some other representative of the family must report daily and must bring the child at stated intervals for inspection. Slight derangements of digestion are quickly brought to notice and can be met by appropriate changes in the food. When the food furnished is suitable in character, proper in quantity and sufficient only for the needs of twenty-four hours, there is not the chance of going wrong in regard to quantity and frequency as when the mother prepares the food herself. Through such agencies as the milk depots I believe more can be accomplished than by any other plan yet devised. An extension of this work would, in my judgment, do more than any other means proposed to reduce infant mortality in summer. Its effect on the deaths for the remainder of the year is much less marked.

The outlook for a reduction in the mortality from acute respiratory diseases and tuberculosis is not so hopeful as for the groups just mentioned. Both tuberculosis and acute respiratory diseases are greatly increased by overcrowding and bad housing, two conditions very difficult to reach in all large cities, but especially so in New York. But much has already been done to improve them. Something can also be accomplished by teaching the importance of fresh air and removing the traditional fear of taking cold as a causative factor in these diseases. The radical remedy is the abolition of the old insanitary tenement and the erection of more sanitary dwellings. Thanks to the energy and efficiency of the Tenement House Commission, very much has been accomplished already along these lines. The removal of those with young children from the densely populated districts to the suburbs should be encouraged by every possible means.

Tuberculosis is not, as was once thought, an uncommon disease in infants. That it causes 5.6 per cent. of the deaths under one year in an institution like the Babies' Hospital is conclusive evidence on this point. Tuberculosis will not be materially reduced by sterilizing milk, for it is a very small fraction of the patients

who acquire the disease in this way, but by removing adults or others affected with pulmonary tuberculosis from association with infants—certainly from their immediate care. It is only by the removal of these carriers of infection from the household that any great results can be obtained. This is a very difficult question when it is a parent, especially a mother, who has the disease.

The ordinary acute infectious diseases play so small a part that they may be passed over with a word. It is particularly whooping-cough from which infants should be protected and, next to this, measles, especially in the winter and spring season.

General hygiene is of the greatest importance, since it affects nearly all the foregoing diseases, but particularly the acute intestinal diseases of summer and the acute respiratory diseases in winter. Everything which touches the general healthfulness of a city influences infant mortality. It is these most susceptible members of the community who show most quickly the effects of adverse conditions and reflect most markedly improved conditions of living.

The most important causes of infant mortality may be divided into three groups, according to the degree to which they may be reduced:

1. Those but little influenced by treatment:
   Malformations.
   Extreme feebleness or prematurity (before the seventh month).
   Certain accidents during birth.
2. Those capable of considerable reduction, chiefly through proper housing, isolation and medical treatment:
   Tuberculosis.
   Acute respiratory diseases—influenza.
   Contagious diseases—whooping-cough, measles and diphtheria.
3. Those capable of very great reduction through proper feeding and care:
   Acute gastrointestinal diseases.
   Marasmus and inanition.
   Prematurity, after seventh month.

For this last group, which is much the largest, there is needed the fullest and most exact scientific knowledge of the subject of infant-feeding and hygiene. It is in the medical schools that the work of instruction in these subjects should begin. We cannot expect to have well-taught mothers and nurses unless we have well-instructed physicians. What results could be looked for when the subject was so lightly regarded by even so representative a body as the Committee on Curriculum of the American Medical Association in 1905, which, in an "ideal medical course," considered ninety hours sufficient for the study of the diseases of children, exactly the same as the time allotted to electrotherapeutics?

At present there are hardly half a dozen medical schools in the country that possess an independent department of diseases of children. From most colleges a man may graduate without even passing an examination in this subject. It is only a few years since, even in the best institutions, anything like adequate instruction has been given. The older members of the profession who received their education before this time have been wont to regard matters of infant-feeding and hygiene as subjects which may be safely left to maternal instinct or the wisdom of the trained nurse.

The recognition of the claims of this department of medicine have been tardy, but there are signs that it is coming at last. It is encouraging to note that the Committee on Curriculum of the American Medical Association in 1909 allotted twice as many hours to the diseases of children as were given four years ago. In the whole range of preventive medicine I believe that there is no field which opens up wider possibilities than the means which may be employed to reduce infant mortality.

NOTE.—Other important articles in relation to the subject of infant mortality are the following:

Comby: Traité des maladies de l'enfance, i, 69.
Freeman, R. G.: The Reduction of Infant Mortality in the City of New York and the Agencies which have brought it about, Med. News, Sept. 5, 1903.
Graham, E. E.: Infant Mortality, THE JOURNAL A. M. A., Sept. 26, 1908, li, 1045.
Hartley, Robert M.: An Essay on Milk, 1842.
Kober: President's Report on the Committee of Social Betterment, 1908.
McCleary, G. F.: Infant Mortality and Infants' Milk Depots, London, 1905.
Newsholme: Jour. Hyg., 1906.
Phelps, F. B.: A Statistical Study of Infant Mortality, 1908.
Stowell, W. L.: Infant Mortality, Past and Present, New York Med. Rec., May 22, 1909.
Tyson: Journal of State Medicine, September, 1904.

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ABSTRACT OF DISCUSSION

DR. KOPLIK, New York: I am sure we appreciate Dr. Holt's statistics showing the inaccuracy of the statement that with all our work we had not succeeded in reducing the mortality in infants in the last fifty years. Some years ago Flügge undertook to determine whether sterilization of the milk and other advances in infant feeding had reduced the mortality, but he found that the birth-rate in many cities was so badly recorded that he had to leave it an open question. Dr. Holt has shown that even in New York 15 per cent. of the births are unrecorded and we are unable to make any calculations on that deficiency. Any one who has been in the hospitals and seen the children brought in will agree that there has been a great reduction in infant mortality by careful feeding. By a careful recording of births and deaths we will be able to know just what work we are doing. I am glad to see that at least there is some encouragement for all of us. Mr. Phelps tried to prove that there had been absolutely no change in the mortality the world over within the last fifty years in infants below one year of age.

DR. E. E. GRAHAM, Philadelphia: A year ago I read a paper on infant mortality in this Section, and Dr. Holt's conclusions to-day tally with mine of a year ago. All interested in infant mortality will find that there has been a marked reduction not only under the age of one year but also under the age of five years. It is gratifying to me to see that Dr. Holt has brought out the point that infants die because they are not nursed by their mothers. A great fault of pediatric teaching is that while our efforts have been largely directed to the modifications of cow's milk we have given but little attention to the best means of procuring for children their natural food. America is behind other countries in providing pregnant women with proper facilities for obtaining proper food and care. As long ago as 1876 a society was established in England which sees that the pregnant woman is properly fed, clothed and housed, and when necessary she is taken care of for the year following her confinement. The mother takes care of the baby and it lives. In France there are restaurants where good meals are supplied three times a day to pregnant women. If we are going to reduce this enormous infant mortality we must see that the mother is able to nurse her baby. It is interesting to note the difference in deaths between the legitimate and the illegitimate children. The illegitimate die two for one of the legitimate. In this country a woman who has had an illegitimate child, as a rule, is turned into the streets just as soon as she is able to leave the hospital. Statistics show that a large number of illegitimate children die during the first two months of life. If the mother were kept at the hospital for the first three months of the child's life it would tide the child over the period when it is most likely to die, and it is possible that the association of mother and child during those first three months would tend to make

the mother more willing to do things for the child that she might otherwise be unwilling to do. I think it a very conservative statement that deaths from diarrheal diseases in the summer could easily be reduced 50 per cent. by seeing that these children get proper milk and are visited by competent nurses and have proper improvements made in their surroundings.

DR. E. LACKNER, Chicago: I wish to describe to this Section a movement founded in Chicago this summer. The aid society has established local stations all under central control. Each of the local offices is under the charge of a physician. We have tried to pattern after two organizations in Paris, the first, where the mother is encouraged to nurse her baby, and the second, where artificial food is furnished to children. Of course, there is a whole program to be carried out. Each local station has a visiting nurse. She must be a very capable person, for much tact is required, and she must watch the children carefully, and report to the physician in charge of the office. The consultation is free as to the care of the child, not medical advice but simply advice as to how to take care of the child. This organization is based on those described by Keller. The main point is that the mother is urged through the nurse, through the doctor and by every one possible, to nurse the child, and if she has to work, then she is paid to stay at home and nurse her baby. In Germany there are more illegitimate children than there are here. In a German city of a population of 200,000 they had in one year 1,500 illegitimate children under the care of the organization. The mother who is a good mother is not requested to call at the consultation very often, but the poor or negligent mothers are asked to report at the office frequently. Then, at this bureau, if the physician orders that the child be taken to the hospital, the child goes. Whatever in the city is of a charitable nature is consolidated and there is a central organization that has entire control and the children will be disposed of in whatever way the doctor feels is best. The mother, for the last one or two months of her pregnancy, if for reasons necessary, is taken into the lying-in hospital and is encouraged to nurse her child and she is kept in the hospital until the child's health is established.

DR. H. W. COOK, Minneapolis: Is there any reliable estimate of the number of women in New York who do nurse their children? We know that a larger and larger number of women are not nursing their children through the first year, so that the large mortality among artificially fed children in comparison with breast-fed infants may give an exaggerated idea of the dangers of artificial feeding.

DR. C. G. KERLEY, New York: Dr. Graham states that in this country the mother with an illegitimate child is sent out of the hospital with the child as soon as possible. That is not the case in New York. There are three institutions in New York that are capable of caring, and do care for, several thousand illegitimate children.

DR. HENRY L. COIT, Newark, N. J.: It seems to me that each of us should consider it a duty to encourage and, when possible, to urge the nursing of infants by their mothers and repeat the work that is being done in Europe by the establishment near the homes of the poor of consultations for nursing mothers. The main question before us, however, is that of statistics. The great difficulty in obtaining reliable mortality statistics is emphasized by the fact that the registration area for vital statistics in the United States includes less than half the population. The study of epidemiologic records, together with the statistics on acute gastrointestinal disease indicate that milk is the largest causative factor both in morbidity and mortality among infants, the importance of which cannot be overestimated, nor to the study of which can be applied too much patience or judicious detail. Reliable information as to the incidence of various causes in the total mortality should be gathered, and it seems impossible to get this information from the government or in any way except as Dr. Holt has laboriously obtained it in his own city. A concerted effort in which every section of the country is represented should be organized. There should be some central medical body to direct this work and to secure in every large center a statistician to work out these problems.

DR. FRANK S. CHURCHILL, Chicago: In the last chart, in the two curves showing the death rate from respiratory troubles and gastrointestinal troubles, in the last five years there is a steady rise in the death rate among babies in New York. Happening for four or five successive years, it would seem as if there must be some cause for that and I wish Dr. Holt would tell us if he knows the cause.

DR. J. W. VAN DERSLICE, Oak Park, Ill.: It seems that we have far more reason for congratulation on the lowering of the death-rate in view of the change from a rural to an urban population. I think we have not yet learned how to live in the cities. While in European countries they have the classes and the masses, we have nothing of that kind here, and I think this step of ours toward paternalism is the first great step toward establishing such a state of affairs in this country. As to the care of the mother and child when sent from the hospital, it is true that these institutions do take care of a small number, but it is hard to get the women to go to these places. The great point is the development of the maternal instinct in these women; this would save more children than anything else.

DR. ALFRED F. HESS, New York: In looking over about thirteen hundred cases among the Russians in New York, I found that 80 per cent. of the mothers nurse their children through the first three months. Only 5 per cent. did not nurse their children at all. It was interesting to note, too, that most of these women were delivered by midwives and were not urged to nurse their children by physicians. I was struck by the fact that the mortality was not particularly low, although I have not closely investigated these statistics. I had an opportunity to study these children and children in another dispensary where the mothers do not nurse their children so frequently, and I could not see that there was any great difference in the mortality.

DR. C. F. TENNEY, Toledo: An effort has been made in Toledo to obtain certified milk owing to a number of cases of typhoid traced to the milk supply. We finally succeeded in getting certified milk at a reasonable price. Clean milk is a most important thing in artificial feeding, and we were able to get it.

DR. E. HOLT, New York: I think that the change in figures in these statistics is due to the fact that they were actual mortality figures and not relative ones. The rise in the mortality from diarrhea in the years referred to by Dr. Churchill may be explained by the increase in population. For the last five or six years we have had a very careful watch kept over the milk supply. While I think that the milk is exceedingly important, when we have done all we can through the milk we still have a large problem on our hands. Much is due to ignorance. One advantage in breast feeding is that a very stupid woman may do it well, but a stupid woman cannot feed an artificial food and do it well. We must not only do all we can to help those who cannot properly feed their children, we must teach all phases of infant hygiene. The problems of infant mortality are very difficult and they are of immense importance. I do not believe that we are going to succeed in solving them merely by securing clean milk. Poverty and ignorance are causative factors of great importance. Mothers must be taught how clean milk is to be fed if we accomplish very much. As to the statistics on breast-fed infants in New York City, 85 per cent. of all the children are breast fed, 15 per cent. are bottle fed, but these figures are taken largely from the hospitals, so probably 80 per cent. breast fed and 20 per cent. bottle fed would be nearer the truth, but the fact remains that 85 per cent. of the deaths occur among artificially fed children.

Nodules on Endocardium.—In the heart of a 4 months old child dead of bronchopneumonia were found a large number of wart-like nodules on all the valves and the septum of the foramen ovale. Microscopic examination of the nodules showed a delicate substratum of connective tissue supporting a layer of epithelium. There were no signs of recent inflammation and no round cells. Cardiac dulness in life was not increased and the heart sounds were normal.—Jewesbury, in *Proc. Royal Soc. Medicine*, December, 1909.

A PLEA FOR THE ESTABLISHMENT OF AN AMERICAN ASSOCIATION FOR THE PREVENTION OF SOCIAL DISEASES *

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Though I do not treat venereal diseases as a rule, I have undertaken this study because, in my work as an internist and family physician, the great necessity of a general awakening to the importance of this subject in the United States has been forced on me from year to year with greater and greater emphasis. In many of our large cities no provision is made for the treatment of venereal diseases, and in some cities patients suffering from these diseases are specifically forbidden admission to any of the existing hospitals.

Furthermore, the present paper does not pretend to be exhaustive, as it is based chiefly on personal observations, impressions and convictions, and not on library work.

As to the amount of venereal diseases in the United States we can only guess. It is fair to assume, however, that the percentage of the population so infected does not vary greatly from that which obtains in Germany. According to a recent article by Bierhoff, the number of prostitutes in New York, 36,000, is proportionately as great as in Berlin, and the amount of venereal diseases may be assumed to vary directly with the amount of prostitution. Even in Germany an exact estimate is out of the question; but the dispensaries of the workingmen's compulsory insurance give statistics the like of which does not exist in any other country of the world, because at the present time those suffering from venereal diseases are not only treated free in these dispensaries, like all other cases and with the same consideration, but also receive a like indemnity if they are thereby rendered unable to work.

The larger the city, the higher the percentage of venereal diseases, because of the greater amount of prostitution, the lower moral standards resulting from the crowding of the poorer classes in insanitary dwellings, the difficulties in the way of early marriage (30 per cent. of the total number of births in Stockholm and 50 per cent. in Budapest are illegitimate), and the gravitation of the idle and criminal classes toward the centers of population. Berlin shows the highest figures in Germany, and Professor Blaschko's estimates for Berlin are as follows:

Annually infected with venereal diseases:

Soldiers	4 to 5 per cent.
Salesmen	16.5 per cent.
Waitresses	13 to 30 per cent.
Students	25 per cent.

On any single day about 100,000 people are under treatment for venereal diseases in Germany, according to an estimate made from a canvass on April 30, 1900.

Of the 12,000,000 insured in the German Empire, about 750,000 are infected annually at a cost to the insurance treasury of 6,000,000 to 7,000,000 marks; and to this should be added, in estimating the real cost to the country, the time lost by the acute attack and by sequelæ, and by the shortening of life, by blindness, etc., etc.

Professor Blaschko has estimated that of every 100 men between the ages of 20 and 30 in Berlin 20 are infected with gonorrhea and 2.4 with syphilis each year. (Professor Linden's estimates for Hanover are about a sixth less.)

If a young man practices sexual intercourse for ten years before marriage in a large city, the chances are that he will have had gonorrhea two or three times, and the chances are about one to four that he will have had syphilis. Citron stated in Budapest last month that 10 per cent. of the wet nurses in Dresden were syphilitic, and, though they had no symptoms, 75 per cent. of their children had, and that these women without symptoms could spread the disease.

Only the family physician who has learned to recognize the protean manifestations of venereal diseases among his patients has an idea of the ever-increasing extent of this curse of civilization. I need only mention the brides who go to the gynecologist's table during the first years of their married life, the chronic invalids, the childless homes, the asylums for the blind and deaf and dumb, and the host of tabetics, hemiplegics, paretics, and mental and physical cripples who owe their afflictions directly or indirectly to venereal diseases.

A volume might be written—yes, many volumes have been written—on the extent and importance of venereal diseases, but I pass over this topic with the preceding brief but suggestive allusions, in order to have more time for other considerations.

This pandemic should be met in two ways—treatment of the existing cases and prophylactic efforts to limit the spread of the disease. The former is included in any comprehensive grasp of the latter problem.

The danger of any individual's contracting a venereal disease increases directly with the number of different persons with whom the person has sexual relations; therefore the prostitute is more liable to these diseases than any one else, and consequently prostitution is the principal source, the chief factor, in the spread of venereal diseases.

Prostitution cannot be abolished because it exists in response to the demand of the uncontrolled natural sexual instincts of the race—because it is the result, not the cause, of the immorality of our large cities.

The only way to abolish prostitution is to remove the demand for prostitutes. This implies education of the public to high ideals of self-control and to a knowledge of the physiologic and pathologic facts involved, and such an improvement of the average intelligence and physique as to make it possible for the masses to be guided by cold reason. This, all will admit, is too utopian to have practical value at the present time.

The individual, on the other hand, may be brought to this ideal condition if the training is begun early enough.

I believe that this part of the education of our young people is usually put off far too long, even when it is given, and it is often omitted altogether. The individual, I say, may be taught the meaning of the sexual impulse and the various expedients for keeping it under control—baths, clothing, exercise, choice of associates, reading, etc., etc. He may be convinced that there is no physiologic necessity for sexual intercourse before marriage, and that his organism will suffer in no way from indefinitely protracted chastity; he may learn that syphilis is not as easily and certainly cured as is generally believed; that marriage should not be thought of for four years after infection; and that the certainty of a cure in any individual case cannot be demonstrated without an autopsy; he may further learn that gonorrhea is not a trivial malady "like a cold in the head,"

* Read at the Fifty-ninth Annual Session of the Medical Society of the State of Pennsylvania, Sept. 28, 1909.

but a serious infection, which in any individual case may become general, or may prove to be incurable, and which may embitter his whole life and the lives of those most dear to him; he may learn further that illicit intercourse cannot be freed from the dangers of these infections. When he has learned these things, if he has sufficient strength of character, he will take no chances.

But not all can be so educated, and many have not the character to profit by such enlightenment. We may not say to such, "We have given you the facts; if you suffer, it is your own fault," any more than we may let a man drown because he disregarded our advice and got into deep water; first, because we recognize the obligation of the strong to help the weak, and, second, because the results of weakness and stupidity are not confined to the individual, but, in ever-increasing circles, spread disease and disaster throughout the body politic.

The state or municipality has the same moral obligation and the same financial interest in the control of venereal diseases as in the control of any other controllable disease.

The protection of the interests of every individual increases as the sum total of contagious diseases is diminished.

Various factors which I need not mention have hampered any frank consideration of this problem in America. Individuals, notably Dr. Prince A. Morrow, President of the American Society of Sanitary and Moral Prophylaxis, have raised their voices from time to time, and several societies have been organized during the last few years, and are doing good work, as the Pennsylvania Society for the Prevention of Social Diseases, and societies in New York, Detroit, Baltimore, Chicago, Indianapolis, St. Louis, Spokane, Portland, California, Jacksonville, Denver, West Virginia, and possibly by this time Georgia, Texas and Connecticut. If, however, we would study the practical value of the varied efforts for the control of venereal diseases, we must turn again to the older countries of Europe.

We hear a great deal about the police control of prostitution for the purpose of limiting the spread of venereal diseases. Let us consider briefly the methods employed with the arguments for and against this system, its value and limitations.

In several European cities it has been tried and abandoned, as in London, Christiania and Copenhagen, and, although the partisans of control point to statistics showing increase of venereal disease in the years following the abolition of police supervision in London and Christiania, many of the most careful students of the question assert that the curve of the amount of venereal diseases shows waves of variation independent of all extraneous influences, that, e. g., the amount of venereal disease in London and Christiania has fallen as low at times since the abolition of control as it ever was under the control régime. Christiania was twenty-eight years under control and has been twenty years without control.

Hence we are once more disappointed in our recourse to statistics.

In Stockholm, where the problem has received much careful consideration, and where a royal commission has been at work on the question for the past five years, I found the police control of prostitution apparently dying a natural death, the number of prostitutes under supervision diminishing from year to year, in spite of the fact that the number of prostitutes in the city is probably keeping pace with the city's growth. There are probably 4,000 or 5,000 prostitutes in Stockholm at the present time, and only about 250 are under control.

In Berlin, as in many other German cities, there exists, on the contrary, an energetic and growing system of control. It is probably nowhere better done than in Berlin, where I was again and again astonished at the intelligence, scientific thoroughness and humane consideration shown in this work.

It is found in all large cities where control is in force that the women who are most likely to remain under control are the older ones (I saw several over 50 years of age in the examining rooms in Berlin) and a large proportion of these have gone through syphilis, and in the tertiary stage are liable at any time to develop contagious lesions; and they have had gonorrhœa so often that it, too, is liable at any time to light up afresh from some smoldering focus, so that no amount of control can make them safe; while the younger women, chafing at the restrictions of the police, seek to elude them by frequently changing their residence, or by keeping up an ostensible occupation. Venereal disease in these younger women is more amenable to treatment, and at the same time the younger women are more important factors in the spread of disease because of their greater popularity; therefore any system that would bring this class under medical supervision would be of inestimable benefit.

Any attempt at police control of prostitution without the European system of registration of all inhabitants with compulsory notification of all changes of residence, occupation, etc., would be futile, and therefore I consider police control of prostitution impracticable for our American cities. Perhaps this is not a misfortune, for it is not yet demonstrated that better results cannot be obtained by social organization against this social evil. Many of us feel that the organization against tuberculosis is productive of great good to the human race. There is even more reason to expect immediate results from efficient organization against venereal disease, for, although the number of cases of venereal diseases rivals the number of cases of tuberculosis, yet infection in the former disease is much more easily controlled.

National organizations against venereal disease exist in Germany, France, Austria, Denmark, Italy and Hungary. In Sweden, although as yet no organization exists, the physicians have done much in the way of the publishing of tracts and the giving of lectures to young men and to young women of different classes.

The organization in France and Belgium is nine years old; that in Germany, seven years. The oldest organization for this purpose in the world is the "Teleia" of Budapest (literally translated, "Venus"). This organization is fifteen years old, has 400 contributing members, and gets some help from the city. For many years it attracted little attention and could accomplish but little; now it is most active and rapidly growing. The president is a nobleman very much interested in the work. The Teleia holds meetings, gives instructive lectures to various classes of society and issues tracts of warning and advice; but its chief activity is a clinic for the free treatment of venereal diseases, where about 8,000 new cases were treated last year. They have different rooms for gonorrhœa and syphilis, with different staffs consisting of a chief and four to six assistants each, and different hours for men and women. They give individual, up-to-date treatment, and command the respect, admiration and obedience of their clientèle, who drop enough money in the box for voluntary contributions to pay for the necessary new instruments. Prostitutes are not

treated if recognized as such (as this is forbidden by the laws of Budapest to any but the regularly appointed police physicians), but no unnecessary questions are asked, the object of the society being to combat the venereal diseases in every way possible. In addition to treatment at the dispensary, medicines are given, much good advice, verbal and printed, and sometimes even condums are furnished. Married victims are tactfully directed to send their husbands or wives as the case may be. Sometimes 150 cases are treated in the evening of a single day, keeping the staff busy from 6 p. m. to 9:30. The evening I visited the Teleia I saw Dr. Emödi ably, courteously and sympathetically supervise the treatment of seventy-one cases. All patients who have been treated by the Teleia are directed to report again whenever they have the intention of marrying, and they generally comply with this request; they then receive a careful and thorough examination, including massage of the prostate, with microscopic examination of the strippings, and Wassermann's test in appropriate cases. As a rule they do not marry until they receive the permission of the chief. Those who announce their intention of marrying as soon as possible receive especial attention from the first.

Hungary has the compulsory workingmen's insurance similar to Germany, with the same broad-minded regulations as regards venereal diseases. There is no compulsory registration of venereal diseases in either Germany or Hungary.

The National Hungarian League Against Venereal Diseases is at the present time rather inactive, being hampered by the attitude of a certain Hungarian cabinet minister.

Let us now consider the aims and accomplishments of the German Society for the Combating of Venereal Diseases—the D. G. B. G., as they call themselves (*Deutsche Gesellschaft zur Bekämpfung der Geschlechtskrankheiten*). Founded seven years ago with a membership of physicians, statesmen and laymen of all walks in life, both male and female, its membership now numbers 5,000. The annual dues are three marks, and all members receive the bi-monthly publication of the society. There are more than thirty branch societies scattered through Germany, and, in addition, many departments of the government, insurance associations, dispensaries, philanthropic societies, associations of workingmen and of students, cooperate with the society in bringing about desired reforms in the laws of the country, and in the regulation of insurance and eleemosynary institutions, and in spreading the saving knowledge in all strata of society. Three national congresses have been held, at which many of the most important questions in regard to this work have been most ably and thoroughly discussed, such as the criminal and civil relations of venereal diseases, the reform of the methods for the control of prostitution, the compulsory registration of venereal diseases, individual prophylaxis, etc., etc.

The practical attainments of this society have been many and important, as, for example, the abolition of all discrimination against venereal diseases in the laws regulating compulsory insurance, the increase in the number of beds for venereal diseases, and the creation of special wards for these diseases in many of the hospitals, the doing away with the careless and irresponsible method of treating these diseases which formerly prevailed, and the putting of them on the same plane as any other diseases, the overcoming of the popular prejudice against being treated in these departments, and the improvement of the methods of the sanitary police for the control of prostitution, the introduction of chairs for venereal diseases in the medical departments of the universities, and questions on the same in the state examinations, the establishment of lectures on venereal disease before the students of other departments of the universities in each semester, the introduction in most states of lectures on sexual hygiene to advanced students of preparatory schools, seminaries, etc., and to graduates of these schools on the nature and danger of venereal diseases, and evening lectures for parents on the sexual education of their children. The German press has also been brought into line for the cause. All the foregoing has been accomplished, and at the present time the society has presented and is working for a new imperial law according to which prostitution shall not be punishable so long as it does not offend against public order and decency, and the harboring of prostitutes shall not be punishable so long as it is not in the form of brothels, and is free from any share in or extortion of the earnings of the prostitute, while at the same time the conscious or irresponsible spreading of venereal disease is to be strenuously prosecuted.

Besides the publication of the *Mitteilungen*, the society aids in the publication of the *Zeitschrift für Bekämpfung der Geschlechtskrankheiten*. It has also published circulars of warning with appropriate differences for the youth of both sexes, of which 5,000,000 have been distributed (4,000,000 at the cost of the society). These *Merkblätter* describe briefly the venereal diseases with their many dangers to the infected and to their associates, give sound information in sexual hygiene and suggest prophylactic measures for such as will take the risk of illicit sexual relations, warn against the effects of alcohol in undermining good resolutions and weakening the will power, as well as predisposing to infection, emphasize the importance of early treatment, and warn most emphatically against quacks, teaching also the necessity for all who have ever been venereally infected to obtain the assurance of a specialist that they are cured before renewing sexual relations and before marriage.

The society has also published, at nominal prices, a number of different papers dealing with different phases of the question and written particularly for different classes of society, and prizes have been offered for such papers and tracts. Traveling speakers with a collection of wax models, pictures and tables, give lectures in the various towns, and the exhibit is loaned to larger cities which furnish their own speakers and demonstrators, just as our tuberculosis exhibits are used. The society is also directing investigations into various mooted questions and social evils, thus collecting the materials for future reforms.

One cannot but be filled with admiration at the accomplishment of this association and at the energy and ability of its management. The president is Prof. A. Neisser of Breslau, the vice-president, Prof. E. Lesser of Berlin, the general secretary, Dr. A. Blaschko of Berlin.

All who have given much thought to this subject agree that the only efficient means of fighting these diseases consists in the education of the public, the establishment of free dispensaries for the treatment of venereal diseases, with every possible inducement to get the infected to accept the treatment thus offered, the repeal of bad laws, and the adoption of new ones which work only for the desired end.

The laws of Norway, after twenty-eight years of control and many years of experience without control, are

generally regarded as the most efficient yet devised, and they are certainly worthy of study. They are briefly as follows:

Venereal diseases must be reported like all other contagious diseases, but with initials of the patient instead of the full name. The probable source of the infection, if ascertainable, must be given on the notification blank, and whether male or female, the individual alleged to be the source of the infection is summoned to appear before the sanitary police officer. Informed that he or she is suffering from a contagious disease, he is asked to submit to an examination by the physician of the department. This examination cannot be insisted on. If accepted and venereal disease is found, free treatment is furnished if the individual desires. If the examination is refused, the individual is directed to bring a certificate from an approved physician that he is well or under treatment. This demand must be complied with, and if a venereal disease is reported the subject must sign a form running something as follows:

Dr. N. N. has told me that I am suffering from (name of disease) a contagious disease, he has fully explained to me the dangers of this disease with regard to myself and my associates, and its probable duration, and has made it clear to me that I must remain under treatment until he gives me a certificate to bring to this office that I am well and no longer a possible source of contagion. I know that if I have sexual intercourse during this time, whether I transmit the disease or not, I am liable to be punished under Section —— of the Laws of Norway.

This paper, duly signed, is filed with the doctor's certificate. If the signer is known to have sexual intercourse thereafter, he is arrested and prosecuted. During the past year twelve, mostly men, were arrested and two were punished.

A monetary indemnity may be legally demanded in Norway by a man or woman who has been thus knowingly exposed to venereal infection. The fact of infection from the accused does not need to be established.

In several cities, as in Stockholm and Breslau, a useful expedient is employed against gonorrheal ophthalmia, which consists in sending by return mail a printed warning to all parents of the lower classes, on receipt of a birth registration, which in these cities is immediate.

For some years it has been my personal conviction that every physician is under the moral obligation of seeing to it that no patient of his, through ignorance, exposes his bride to gonorrhea or syphilis, and that no female patient marries a man who is ignorant of the dangers of venereal disease, long after an apparent cure. No difficulties are encountered in carrying this into practice.

From the foregoing, it is evident that the scientific method has been introduced into the consideration of these problems. We have learned that if we are to handle the problem of prostitution we must study the prostitute. Scientific observation, not theory or sentimentality, even with the best of intentions, must be our guide.

The word "prostitute," in the mind of a sanitary inspector like Inspector Penzig of Berlin, after many years of personal contact, connotes something very different from the word "prostitute" in the mind of the average layman, pastor, or even settlement worker.

Inspector Penzig says prostitutes are such because they are degenerate, because they belong psychically to the criminal class, that they cannot be counted on to react to new and favorable environments as psychically normal individuals would, and that therefore any efforts at voluntary sanitary control as advocated by the D. G. B. G. will fail. He points to the statistics of Copenhagen, where recently voluntary medical control was substituted for the compulsory control of the police with results far below what was anticipated.

He claims that the number of Berlin prostitutes seeking treatment at the dispensaries of the D. G. B. G. is very small; in fact, insignificant. He asserts that this shows a lack of intelligent appreciation on the part of the prostitutes; that they are, in fact, "penny-wise and pound-foolish" as is usual with the mentally deficient, and therefore choose to shun the doctor who may even temporarily interrupt their business. On the other hand, the able leaders of the D. G. B. G., after years of observation, study and discussion, are convinced that voluntary sanitary control, especially if combined with such laws as those of Norway, can be made in time a more efficient weapon against venereal disease than any form of police control. This shows us that many important questions remain to be settled, and that they can be settled only by organized efforts, by scientific methods, and by taking advantage of the experiments in different directions wherever made.

Chaos has often resulted heretofore in the consideration of these subjects from a mixture of motives. It is obviously impracticable to try to consider the questions of social hygiene from a legal or a moral standpoint. Let the home missionaries, the settlement workers, the juvenile and criminal courts, do their utmost with the unfortunate and the degenerate. Let the police make what efforts they may in the interest of decency and order; with that we are not here concerned, nor is our object to safeguard promiscuous sexual relations from the dangers of venereal infections. Our aim is, first, to protect the health and happiness of innocent women and children, our sisters and our daughters; second, to relieve as much as possible the physical and mental sufferings of our fellow-beings in a spirit of broad philanthropy that brooks no moral or social distinctions, and, third, to conserve and to raise the physical and economical coefficient of our population, male and female, and to this end I urge the organization, from our present local societies, of an American Association for the Prevention of Social Diseases, with branches and dispensaries in all our cities.

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HOW AN ENLARGED AND MORE UNIFORM NATIONAL HEALTH ADMINISTRATION MAY BE SECURED

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That suspicion of improper interference on the part of the federal government, when through its power over interstate commerce it has sought to exercise authority in even an advisory manner over public health matters, is still a bogey with the extreme advocates of a state's rights policy. This fear of unwarrantable meddlesomeness with the affairs of a state will always hinder a salutary national administration of affairs pertaining to public health of the United States.

This distrust of federal supervision in public health affairs is seemingly not confined to any particular part of the country. At one time it was thought that the states lying south of Mason and Dixon's line were pe-

culiarly sensitive in regard to federal interference; but it is apparent to-day that Massachusetts, Ohio and Illinois and other northern states are much more jealous of the prerogatives of state sovereignty in sanitary matters than are the southern and southwestern states.

The action taken at the Chattanooga convention in 1905 by the health representatives of the gulf states, and the subsequent complaisant view of the subject of federal control of maritime quarantine methods for the entire gulf section of the southern United States, as expressed in Congress, brought out the fact that these states yielded very cheerfully their constitutional rights over waters adjacent to their seaports. It is doubtful, however, if this federal statute would stand the test of adjudication by the Supreme Court of the United States should any of the officials of a state affected by the provisions of the law choose to contest it, for this statute is not uniform in its action, but is a piece of special legislation for a section, not for the entire seacoast of the United States. For instance, the Mexican gulf coast of the United States is placed by national statutory enactment under direct maritime sanitary control of the national government, a condition which does not apply—without the consent of the several states interested—to the Atlantic ports north of the capes of Maryland, or to the seaports on the Pacific. But even with the existing federal quarantine law as applicable to the southern gulf seaports, it is nevertheless contended by distinguished jurists that sanitary authority or control over wharves and docks is still vested in the state, and that it is possible under state laws for state health officials to prevent the landing of passengers or freight on sanitary grounds, even though the vessel may have a federal permit to enter a harbor. This is due to the fact that the powers not specifically granted by the Constitution to the federal government are reserved to the states.

Though eminent jurists have tried to define the scope of authority possessed by the federal government in restraining the spread of disease between the states, and in certain instances within the state, when interstate traffic is affected, yet the general government apparently hesitates to insist on the enforcement of federal sanitary regulations if they conflict in the slightest degree with those of the state health authorities, or to supersede the constituted health authority of a state by federal management, except at the request of the governor of the state.

The various federal acts for the prevention of travel of persons sick with quarantinable contagious diseases, although drawn very carefully, receive not infrequently a severe jolt at a state line.

A few years ago, at one of the annual conferences of State and Territorial Health Officers with the Surgeon-General of the Public Health and Marine-Hospital Service, a state health officer, to the surprise of many, declared that even with the control of interstate commerce lodged with the federal government, it would not be possible to transport a person sick with a contagious disease—smallpox for instance—through his state against his protest or against the disapproval of the constituted health authority of his state; and furthermore, that the sick person could be stopped and detained at the state line. The legality of this position was not disputed by the chairman. Not many years ago a Syrian leper was in the position of a shuttlecock between the battledores of several states who would neither care for him themselves nor allow the federal health authority to transport him to a place of refuge where he could be sent to his own country; and the Public Health and Marine-Hospital Service was powerless to act in the matter, since any federal health authority possesses only the powers conferred by Congress, which in its turn is circumscribed by the Constitution.

The brilliant success achieved by Gorgas in exterminating yellow fever and inaugurating a model system of sanitation in Cuba—a success productive of so much commercial benefit to the people of North America—could never have been attained under a form of government which permitted provinces to dispute the central authority. Supported by a military organization controlled by a commander whose early military training had included hygiene and sanitation, it was possible with system and persistence to conquer an enemy which for over one hundred and forty years had brought personal grief and commercial loss to Cuba and to the United States. While a system of sanitation similar to that adopted in Cuba has vastly improved the health conditions on the Isthmus of Panama, the results have not been as speedily attained, because the form of government at Panama has made it more difficult to carry out the regulations than in Cuba. Until the municipality of New Orleans surrendered to the federal government all sanitary control of the city in the yellow fever epidemic of 1905, the Public Health and Marine-Hospital Service could do no more than advise and suggest, but when that service was given unrestricted power to deal with the situation its management of the epidemic had splendid results.

At present the national government possesses only limited authority over the sanitary affairs of a state, and therefore is unable to pursue an aggressive policy for the benefit of the people as a whole. While the general government has control over the navigation of streams within state lines, its power to restrict the dangerous pollution of those waterways is not without question.

Prof. Irving Fisher not long ago, in a very instructive and interesting report to the National Conservation Commission on the subject of "National Vitality, Its Wastes and Conservation," points out some of the crying demands of the times for improving the national vitality: "The national government should exercise at least three public health functions; first, investigation; second, the dissemination of information; third, administration." The first two conditions can be very readily brought about, as the general government commands both able men and financial resources; but the bar to an efficient superintendence of sanitary matters by the general government is the restraint imposed by the Constitution.

How, then, can this difficulty be overcome? The will of the governed must always be the supreme law, and authority for the federal government to supervise sanitary matters must come from the people through the states, by each state asking for an amendment to the Constitution to this effect. This will permit without question the enactment of laws by Congress carrying ample power for the exercise of authority sufficient to cover every detail of a sanitary administration.

When this is accomplished the general government will be in a position to remove a reproach constantly made against the nation, namely, that more pains are now taken to promote the health of farm cattle than of human beings.

It is easy for writers on sanitary subjects to say what the general government should do, but few who discuss the proposition ever consider whether the general gov-

ernment could legally do the numerous things which have been proposed.

Professor Fisher says:

> The national government should prevent transportation of disease from state to state in the same way as it now provides for foreign quarantine and the protection of the nation from importation of disease by foreign immigration. It should provide for the protection of the passenger in interstate railway travel from infection by his fellow passengers and from insanitary conditions in sleeping-cars, etc.

No sensible person will dispute the wisdom and soundness of Professor Fisher's argument. But how can such action be taken within state lines without the consent of the state? In no other way than by that just suggested. It is not believed that there will be any objection raised by the several states to ratifying an amendment to the federal Constitution by which the Congress shall have power to supervise and control all matters affecting the public health of the citizens of these United States, whereby the life, health and physical discomfort of the citizen is or may be endangered. When this is accepted and Congress shall pass sanitary laws framed on a broad basis of general necessity the national health officer or authority, whether departmental, commission, or the present Public Health and Marine-Hospital Service, can then be held responsible for any fault in the administration of health matters. Then and not until then can a system free from conflict of authority be hoped for or secured. It is not desired, however, that the arguments advanced or the opinions expressed shall be understood as recommending that the health police powers of a state shall be materially abridged, still less entirely superseded, by the general government, but rather that some of the defects in the present system of administration may be remedied and the awkwardness of many existing conditions corrected.

PARAGONIMIASIS OR PARASITIC HEMOPTYSIS

REPORT OF AN IMPORTED CASE IN CALIFORNIA

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Paragonimus westermanii, Distoma westermanii, Distoma pulmonis or *Distoma pulmonale*, as the fluke which causes this disease has been variously termed, is parasitic in the lungs of man in Japan, China, Corea and Formosa, where in some districts a considerable proportion of the inhabitants are said to be infected.

Ward[1] reports the discovery of this parasite in the lungs of a dog from Ohio, and comments on the importance of the recognition of any cases that should occur on the American continent. He notes the character of the parasite and of the eggs, and describes the disease. We have made liberal use of his article.

Stiles[2] and Sir Patrick Manson and A. E. Shipley[3] similarly give a detailed account of the parasite and the nature of the disease. To these three articles the reader is referred for a description of the fluke, its geographical distribution, etc.

Pathologically the parasite gives rise to tumor-like cysts which are situated near the lung periphery. The cysts contain the flukes and their eggs, and masses of Charcot's crystals, and communicate with the bronchi by fine openings through which the eggs and the crystals reach the exterior in masses of mucus and blood. Similarly cysts have been found within the liver, peritoneum, mesentery and the cerebral hemispheres.

The number of eggs discharged in a single period of twenty-four hours from a patient who has suffered thirteen years from the disease has been estimated to be not less than twelve thousand. In water an oval ciliated embryo develops within the egg some time after it escapes from its host. The future development of this embryo and the manner in which an individual becomes infected are not at present known, though it is surmised that the drinking-water is at fault.

Symptomatically these flukes lead to recurrent attacks of hemoptysis, to a chronic cough, and to a rusty mucoid expectoration. These symptoms strongly suggest chronic pulmonary tuberculosis, with which the disease for a time was confused; and it is not improbable that a number of Orientals in this country who are believed to have tuberculosis are really suffering from this fluke infection.

Though during the continuance of the disease the patients commonly suffer from malaise, the accidental rupture of a large blood-vessel by the destruction of the lung tissue and a general anemia from the repeated losses of blood seem to be the only dangers to be feared. Some patients appear to recover from the disease, this recovery being considerably aided by removal from the infected district. A general lowering of the bodily health from disease or dissipation has considerable influence in increasing the virulence of the symptoms.

The physical signs which are associated with this disease are surprisingly few, and in no way characteristic, and it is only by an examination of the sputum that a diagnosis can be made.

In view of the rarity of this disease on the American continent (Stiles refers to one imported case having been recognized in Oregon) and the importance of its recognition from the public health standpoint, we deem it our duty to report the following case:

Patient.—Inone, aged 35, came to California from Japan six years ago, since when he has worked in the California fruit orchards. His immediate complaints are soreness in the lower part of his neck, which is associated with some distress in swallowing, and intense headache, most marked in the temporal regions. The spitting of blood which, he states, is also present, is regarded by him as of secondary importance, and has only lately acquired a significance in view of the distress in swallowing, and the fact that a relative died from cancer of the esophagus.

History.—The family history is irrelevant with the exception of the one relative alluded to. The patient has drunk at times immoderately, but does not use tobacco or opium. One year ago he had an attack of gonorrhea from which he completely recovered. There is no history of a venereal sore or any syphilitic manifestations. Thirteen years ago he had chills and fever in Japan. He was treated and recovered, and has had no recurrences. He has had no other bed-confining illnesses.

Present Symptoms.—A.—Coughing up of Blood: This began when the patient was 12 years old, when he coughed up about a cupful. He continued to suffer from hemoptysis on an average, two to three times a month. At that time he began to drink immoderately, and these attacks became more frequent. When twenty he commenced his army service of three years, during which time he took no alcoholic liquor, and his attacks became less frequent and intense. When he left the service he again dissipated, and the coughing up of blood again became worse. At that time he went to a Japanese country doctor who told him that he was suffering from distoma. Shortly

1. Ward: Med. News, lxvi, 236.
2. Stiles: Osler's Modern Medicine, i, 536.
3. Manson, P., and Shipley, A. E.: Allbutt and Rolleston's System of Medicine, ii, 860.

afterwards his sputum, instead of looking like pure blood, began to be mixed with "spit." Since that time his condition has remained about the same, it becoming worse when he drinks, and improving when he becomes temperate.

B.—Soreness Associated with Swallowing: The pain in the lower part of the neck and distress in swallowing came on a few months ago. The symptoms have been a source of great anxiety to him, and he has lost 15 pounds in weight in the last few months. The patient associates these facts.

C.—Headache: This is also of a few months' duration. It is very intense, usually most marked in the temporal regions; on other occasions the inferior occiput is the seat of the most severe pain. These headaches are worse by day than by night, are fixed and deeply located, he thinks. There are no shooting pains, nor does he suffer from neuralgic pains in other parts of the body.

The patient's appetite is good and bowels regular. He becomes somewhat short of breath on walking up hill, but in ordinary work he suffers no distress. He sleeps well and does not get up at night to pass urine.

Examination.—The patient is compactly built, and fairly well clothed with muscle and fat. The expression of his face is heavy and dull. The pupils are equal in size and react briskly to light and accommodation. There is no nystagmus, and no diminution of the field of vision. There is no abnormality of lid or eye muscle movement. The conjunctivæ are watery. The eyegrounds are normal; so are the teeth, mouth and throat. Breathing through either nostril is normal. The patient hears well with either ear closed. There is considerable tenderness on superficial pressure over the region of both frontal sinuses, in the upper temporal region, and in the tissues just below the occiput. Both supraorbital nerves seem unduly sensitive. No thickening can be made out anywhere. There are no glandular enlargements in the neck, axillæ, above the elbows or in the groin. There are no venereal sores or scars present on the penis. The testes are normal.

Thorax.—Respiratory System: The patient has a broad, well-set up chest. The supraclavicular regions are somewhat hollow, but equally so. The two sides move equally; vocal fremitus is everywhere normal. On percussion the note over the left lung is slightly subtympanitic from the apex above to the level of the nipple in front, and the midscapular region behind. There is a normal extent of lung resonance, and normal increases on both sides during inspiration. A few sibili are audible underneath the left clavicle. Elsewhere the expiratory murmur is normal, and the vocal resonance presents no abnormalities.

Cardiovascular System: There is marked epigastric pulsation of the right ventricular type, but no other cardiovascular pulsations. There are no palpable thrills. The apex is located just outside the midclavicular line in the fifth intercostal space. The right border cannot be determined; the left border is not unduly arched. The heart sounds are pure and regular in time and character, and 80 to 90 to the minute. The pulse is regular in time and character, the peripheral vessel-walls are somewhat thickened and tortuous. The systolic blood-pressure equals 145 mm. Hg, the diastolic 100. It is the same on each arm.

Abdomen: The abdominal wall is soft; no intra-abdominal tumors are palpable. The liver is not enlarged. The kidneys are not palpable. The spleen is enlarged, extending an inch below the rib margin, its edge is hard and thick, and above its dulness reaches the eighth rib. The Murphy maneuver causes no discomfort.

Extremities, Etc.: There are no abnormalities to be found in the skin, muscles, bones and joints. The reflexes, movements and sensations are normal.

Esophagus: Dr. Fehleisen had found some resistance to the passage and withdrawal of a medium-sized probang about eight inches from the teeth. The head of the probang in this position gave rise to a distress similar to that complained of by the patient. On esophagoscopic examination a small area about the size of a ten-cent piece was found with small heaped-up islands of epithelium between which red fissures ran. The fissures were evidently covered with a thin layer of epithelium as the cotton used to swab this area remained quite dry. The opportunity was taken to swab this area with a 5 per cent. silver nitrate solution. This entirely relieved the patient, and since then a full-sized esophageal probang has been passed without distress. It seemed at first as though this area might be indirectly of distoma origin, but in view of the apparent rapid cure this seems unlikely.

Examination of Chest by Radiography: Postero-anterior chest and apex radiograms show no abnormalities. The tree-like branching of the lower pulmonary fields are well marked, but no more so than in many healthy people.

Sputum: When the patient is not drinking or taking medicines the sputum amounts to about two ounces in twenty-four hours. It presents a peculiar glassy jelly-like appearance, and is very viscid. Scattered through it are red or brownish-red areas which look like colored pneumonic sputum. Occasionally small quite fresh coagula of blood are seen here and there. Though it is, we believe, generally understood that the fresh sputum should always be microscopically examined, there can be no doubt that this is frequently neglected by general practitioners, and even in some laboratories and colleges. Owing to such neglect the ova had in this particular case hitherto escaped recognition.

Microscopic examination of the colored portion shows a large number of pus cells, many red blood corpuscles, many large multinucleated cells which contain a large quantity of brownish pigment. In every field two or three eggs of the distoma can be seen. They are oval, brown in color, have a double outline, and at one end a lid is plainly visible. Within the egg are granular areas and very small rounded bodies which look like fat droplets. Many such little bodies are also present outside, it appearing as though some of the eggs had been ruptured. Microscopic examination of the clear portion shows mucous strands and leucocytes, no eggs being visible. The stained fixed film shows the presence of many cocci and bacilli, but no tubercle bacilli. The eggs are no longer recognizable as such. The color of the colored patches of sputum is due to red cells and the pigmented cells, and not to the eggs present.

Urine: This amounts to 40 to 50 ounces in the twenty-four hours, has a specific gravity from 1020 to 1030, and contains no sugar; a trace of albumin is present. Microscopically a few red blood cells and a few leucocytes are to be seen, but no casts or eggs.

Stools: These are normal in appearance; the food is well digested, and no eggs are to be found.

Blood: The hemoglobin is 80 per cent, the red cells 4,800,000 per cubic millimeter, the white cells 8,000, of which the polynuclears are 70 per cent., the large lymphocytes 8 per cent., the small lymphocytes 20 per cent., and the eosinophils, 2 per cent.

Cerebrospinal Fluid: In view of the headache and the fact that the parasites occasionally invade the brain, a lumbar puncture was made. The cerebrospinal fluid was under pressure of 200 mm. of water. It was reduced to 150 by removing half an ounce. The portion removed was clear, and was normal in every respect. The tapping in no way relieved the headache.

Treatment and Its Effect.—The treatment of the esophageal symptoms has already been alluded to.

Headache: In view of the old malarial history, the presence of an enlarged spleen and of very sensitive supraorbital nerves, 5 grains of quinin in acid solution were administered three times a day. This quickly led to a return to normal of the spleen, but had no effect on the headache. Potassium iodid was then administered in 25-grain doses in milk three times daily. Considerable improvement in the headache resulted. Ten grains of aspirin three times daily were then prescribed, with the result that the headache completely disappeared but returned when the drug was stopped. The scalp tissues remained very sensitive. The patient was then instructed to massage the hypersensitive regions vigorously for several minutes on several occasions during the day. This led to a disappearance of the hypersensitiveness, and the patient became quite free from his headache.

Pulmonary Symptoms: During the time the patient was taking quinin the sputum greatly diminished, and it was only with difficulty that one could obtain specimens for examination. The patient regarded himself as cured of the pulmonary

complaint during this time. While the potassium iodid was being taken the sputum returned, became of a disagreeable odor and more copious than it was prior to the patient's taking any drug, and had very much the appearance of muddy water. Aspirin had no effect on the sputum.

The discovery of this case was reported to the board of health, and the patient is, in the meantime, at work in the fruit-orchards free from his headache and distress in swallowing, but spitting up small amounts of ova-containing sputum, though again taking quinin.

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THE VIRULENCE OF OLD CULTURES AND SUBCULTURES OF BACILLUS MALLEI *

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BOSTON

The virulence of pathogenic bacteria is to some degree dependent on or modified by their environment, and, as the result of experiment, it is known that the virulence of such organisms may be raised by their passage through animals. On the other hand, it has been stated that the virulence of some is lost in a comparatively short time when cultivated on artificial media.[1] Different strains of the same organism may differ to a marked degree in this respect, and conclusions in regard to a class of organisms should not be based on results obtained unless the organisms are from several sources.

Bacillus mallei is an organism handled frequently by many laboratory workers; consequently any fallacy in regard to loss of virulence in old cultures should be corrected, since, if one strain has proved virulent, all should be regarded as such unless proved to be otherwise.

At the Boston Board of Health laboratory, work is constantly being done with *Bacillus mallei*, 722 specimens having been examined for the diagnosis of glanders during the past three years, of which 237, or nearly 33 per cent., were positive.

The outfit, consisting of a labeled tube containing two sterile swabs, together with a card with blanks for data, may be found at any of our culture stations, and after use it may be returned to the laboratory by the regular station delivery, or, as more frequently happens, it is brought or sent by the veterinarians.

On arrival, from 3 to 5 c.c. of sterile water is added to the swabs, which are thoroughly rubbed up, most of the material being left in the water. A plant is then made on potato, and a smear is made in order that we may have a guide as to dosage.

Two pigs are inoculated with this suspension: one with 1 c.c., the other with 0.5 c.c., unless there are quantities of organisms or streptococci present, when half that amount is used. A number of freak results from these inoculations have been reported.[2]

Mallein is also made at the laboratory and furnished free to the veterinarians of the city. It is made by inoculating *B. mallei* in glycerin broth and allowing it to grow at 37 degrees C. for six weeks after the formation of a pellicle, which occurs in about a week or ten days after inoculation. This is then tested by making transplants on agar slants and potato, and from this growth a suspension in sterile water is made and guinea-pigs are inoculated. No mallein is used unless there is a typical Strauss reaction from these inoculations. Failure to obtain this reaction is rare.

After testing, the mallein is boiled for 5 or 6 hours, and 0.5 per cent. phenol is added, and it is then ready to filter and bottle. We handle the pigs and suspected material, using the ordinary laboratory card and technic.

A statement[3] in regard to the rapidity with which the virulence of subcultures of *B. mallei* is lost was noticed late in October, 1909, and on November 2 a series of inoculations was begun, using a culture recovered from a pig inoculated for the diagnosis of glanders during our routine work, it being the first one to be obtained after the article was read. On the third day a transplant was made on potato and also an aqueous suspension with which a pig was inoculated, using 1 c.c. Transplants from potato to potato and inoculations have been made every two or three days, and now we have reached the twenty-sixth subculture, and the virulence is as great as it was during the early generations. In this series one pig was inoculated with the eleventh subculture which failed to give the Strauss reaction, and another pig was inoculated giving a typical reaction, the non-reacting pig being kept under observation. Six days after inoculation a small tumor was noticed at the inoculation site, and ten days later there was a swelling noticed on the left forefoot, followed a few days later by a similar swelling on the right forefoot.

At autopsy Dec. 23, 1909, there was found a tumor in the omentum and also a submaxillary tumor, from both of which typical organisms were obtained, and typical cultures were obtained from the omental tumor. The swellings on both feet had completely disappeared and there was no Strauss reaction.

On December 23 two pigs were inoculated, one with the eleventh subculture which had been on potato since November 21, and the other with the twelfth, which had been on potato since November 23. Both gave a typical reaction.

From these few instances it seems justifiable to draw the following conclusions:

1. That in glycerin broth *B. mallei* live and retain their virulence for at least two months, even when kept at body temperature.

2. That a culture of *B. mallei* may be virulent after growing on potato for at least a month.

3. That some strains of *B. mallei* retain their virulence through a great many subcultures on artificial media.

I wish to express my thanks to Dr. F. H. Slack and Miss E. Marion Wade for aid and criticism.

30 Huntington Avenue.

The Cerebrospinal Fluid in Acquired and Inherited Syphilis.—P. Ravaut describes the physical, bacteriologic, chemical and cytologic findings in the cerebrospinal fluid of the syphilitics examined in the Broca and Saint-Louis hospitals in Thibierge's service, at Paris, and discusses the conclusions from comparison of these findings with the clinical course. His article appears in the *Revue mensuelle de Médecine interne et de Thérapeutique*, June 15, 1909, and teaches the lesson that any judiciously interpreted modification of the cerebrospinal fluid in an individual with acquired or inherited syphilis should be regarded as a manifestation of the disease like any other symptom, and justifies energetic treatment controlled by the clinical course of the disease and the findings with lumbar puncture.

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* Read before the Society of American Bacteriologists, Boston, Dec. 27, 1909.

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2. Arms, B. L.: Some Freak Results from Animal Inoculations, Am. Jour. Pub. Hyg., xix, No. 3.

3. Marshall, Chas. E.: The Beginnings of Life from the Viewpoint of a Bacteriologist, 11th Rep. Mich. Acad. Sc., 1909.

EMBOLISM OF THE SUPERIOR MESENTERIC ARTERY

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Embolism of the mesenteric vessels is of unusual interest to the surgeon because of (1) its comparative rarity, (2) the extreme urgency of its symptoms and imperative demand for an early diagnosis, which is frequently difficult and often impossible, and (3) the difficulties attendant on its surgical treatment, which to a greater degree than most surgical problems demand that nicety of judgment and precision of technic acquired by only a few in the field of surgery. Considering these facts, I feel justified in reporting the following case:

History.—Male, aged 26. Family and previous history negative except for an attack of rheumatism two years ago. His general health had been excellent and patient had followed his occupation as locomotive fireman every day. On the evening of September 30, after coming home from his work the patient ate a hearty supper, after which his bowels moved normally and without pain. A few minutes later he was siezed with sudden cramping, agonizing pain which he described as originating in the epigastrium, but so intense in nature as to be indescribable and involving the entire abdomen. In the absence of his family physician I was summoned and reached the patient within thirty minutes of the onset of the pain.

Examination.—Physical examination revealed the characteristic peritonitis facies with evidence of extreme suffering—face pinched and anxious, both knees drawn up, skin relaxed and clammy, abdomen already tympanitic and very sensitive to pressure, both recti rigid. The clinical picture was that of an intestinal perforation or severe intra-abdominal hemorrhage. The temperature was subnormal, pulse rapid and thready and pupils widely dilated.

Diagnosis.—There was absolutely nothing in the previous history of the patient that would indicate previous appendiceal trouble, gastric or duodenal ulceration or gall-bladder involvement. From the condition of the patient, the character, severity and distribution of pain, the diagnosis lay between fulminant appendicitis, gastric or intestinal perforation and severe intra-abdominal hemorrhage such as would occur in acute hemorrhagic pancreatitis. Because of the age and previous history of the patient it was thought that the former condition was the most probable. The family was advised of the serious nature of the trouble and the probable necessity for early surgical interference. The patient was made as comfortable as possible by the administration of a hypodermic of morphin, the application of an ice bag and interdiction of everything by mouth. Next morning I saw the patient in consultation with his family physician. He had vomited frequently during the night, had been very restless and had suffered intensely despite the 1/2 grain of morphin he had received hypodermically in the evening. His pulse was 150, temperature subnormal, skin still relaxed and clammy, abdomen greatly distended and universally tender. No peristalsis could be made out and paralytic ileus seemed present. The lips were cyanotic, breathing shallow and hurried. At this time dulness in the flanks could be determined which changed with change in the position of the patient. Subjectively the patient stated that he felt better than during the night, though the findings showed he was *in extremis*. The family physician readily agreed that the outlook was extremely grave if not hopeless, and from the rapid progress, general collapse, dulness in the flanks and cyanosis we were inclined to consider the case one of acute hemorrhagic pancreatitis.

Operation.—Immediate operative measures were urged but the family were inclined to temporize because of the patient's subjective symptoms. Later in the day permission was given to operate but in the interval his failure had been so rapid that it was deemed useless. Vomiting had been almost continuous, large quantities of brownish liquid being ejected at frequent intervals. Notwithstanding the hopeless outlook a surgeon from a neighboring city had been summoned by wire and preparations for an immediate operation completed. Death occurred, however, before his arrival, thirty-one hours after the onset of the first symptoms. There was vomiting with the initial symptoms, but the vomitus was not blood-stained at any time. There was some tenesmus for the first few hours but very little passed from the bowels. There was no diarrhea and no blood in the bowel discharges.

Autopsy.—Permission to hold a limited autopsy was gained nine hours after death; not, however, until an undertaker had tapped the abdomen and injected embalming fluid. The undertaker stated that he removed by aspiration about two quarts of blood-stained fluid from the abdominal cavity. On opening the abdomen the parietal peritoneum was found to be smooth and glistening, the liver pale, yellow and smooth, not enlarged, the gall-bladder normal in size and appearance, containing about two ounces of bile. The bile ducts were patent and normal in appearance. The pancreas was intact and showed no evidence of rupture. The omentum was congested but the peritoneum of the stomach, bladder and large intestine showed no involvement. The entire small intestine from the duodenojejunal to the ileocecal junction was black and gangrenous and so friable that efforts to put the mesentery on the stretch in order to determine the presence or absence of previous limited infarctions were unsuccessful, the mesentery and gut separating like wet paper under the slightest tension. The superior mesenteric artery was occluded at a point between the colica media and colica dextra. That portion of the duodenum supplied by the gastro-duodenalis was not involved.[1]

Because of the free anastomosis of the mesenteric vessels through the arches of the vasa intestinæ, serious interference with mesenteric circulation is extremely rare. The gravity of the condition is usually in proportion to the extent of mesentery and intestine involved, though very small hemorrhagic infarctions frequently result in localized necrosis and perforation. The suddenness with which vascular changes of this character are initiated is also a factor. Thrombotic occlusion and interference with the circulation by adhesions or mesenteric inflammation offer a better prognosis because their more gradual development permits a readjustment of the circulation. The suddenness of the shock and insult in mesenteric embolism, however, is so overwhelming that there is no time for circulatory readjustment and a paralytic ileus promptly develops.

If occlusion of the superior mesenteric artery occurs, the integrity of that portion of mesentery and intestine supplied by it can be maintained only by anastomosis of the gastroduodenal and inferior mesenteric arteries. When it is recalled that the blood, in order to reach this portion of the intestine through anastomosing channels, must pass for a considerable distance through a plexus of very small vessels, the grave danger to the integrity of that part of the intestine deprived of its natural blood supply is at once apparent. Embolic occlusion of the trunk of the superior mesenteric practically always results in gangrene of the entire field of its distribution. Embolic occlusion is most frequently due to septic processes, endocarditis, aortitis, valvular and aortic vegetations. In this case it was assumed to originate from an endocarditis following rheumatism.

Mesenteric infarction is the least frequent of endocardial embolic phenomena, constituting but 1 per cent. (Edwards). Its features were first noted by Virchow. Jackson, Porter and Quimby collected 225 cases from the literature showing a mortality of 94 per cent. The onset is usually sudden, with intense colicky abdominal pain, vomiting and collapse. The vomitus may be bloody (a feature that has not been satisfactorily

1. Since preparing this report I have read an excellent article by Crouse (Surgery, Gynecology and Obstetrics, December, 1909) in which a case with similar pathologic findings is recorded.

explained), or even fecal. Diarrhea is said to occur in 40 per cent., frequently bloody. Early death from collapse before symptoms of peritonitis develop is the most common termination, the lowered vascular tone due to primary shock being so great that there is little or no absorption of septic products, though peritonitis sometimes develops from gangrenous perforation in infarctions involving small areas.

As there is nothing in the symptomatology to indicate the extent of infarction, the abdomen must be opened before this can be determined, and even in these few favorable cases where a probable diagnosis can be made early, portions of intestine that are apparently healthy but with a circulation seriously compromised may be left which will later become necrotic and cause the patient's death, or the primary shock may be so extreme as to make immediate operation extra hazardous and the surgeon may be persuaded to wait for a reaction that, as a rule, never occurs. There have been instances of spontaneous recoveries just as there are records of operative recoveries, but the mortality is dishearteningly great. If on opening the abdomen the entire small intestine is seriously involved, operative measures are obviously useless.

TUBERCULOSIS OF OS SACRUM TREATED WITH BISMUTH PASTE

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It is probably too early to determine the exact value of bismuth-paste injections in the treatment of tuberculous sinuses, but the favorable reports of many cases treated with this paste in the last two years suggest that at last we have an agent that is really curative. Only a few years ago a patient with a psoas abscess or tuberculous sinus of the hip or sacro-iliac joint was usually doomed; but now such patients are being repeatedly cured by injections of bismuth paste after the method originated by Dr. Emil Beck of Chicago. The following case is interesting in that it shows the cure of a condition which heretofore was almost hopeless; also it shows the severe poisoning which may occur from the bismuth. The injections were used altogether over a period of eighteen months.

The patient, Mrs. F. B., American, in January, 1906, at the age of 21 had a hard fall on the ice, striking on the buttocks. Three days later pain developed over the left sciatic notch and kept the patient in bed for two months. After that she got up and was treated for sciatica. Sometimes she would feel pretty well, then again she would be in bed for a week or two. I saw her in December, 1907, and found a tuberculous abscess over the left sacroiliac joint. She went to Spokane, where the abscess was opened and drained. Iodoform emulsion was injected daily. The patient stayed there a month, the abscess discharging profusely. She came home much emaciated and having night sweats. In February, 1908, I operated, exposing the left sacroiliac joint according to the method of Schede. The whole left buttock was undermined by the abscess and the gluteal fascia covered by tuberculous granulations. The abscess extended to, but not through the capsule of the hip-joint. I removed a sequestrum from the sacrum, carious bone from the joint and scrubbed out the granulations. The wound healed nicely, leaving a sinus down to the sacrum.

The patient improved rapidly, and about March 14 I began injecting the bismuth paste into the sinus three times a week. Her night sweats stopped and she gained greatly in strength. The sinus would not heal and the patient, becoming discouraged, went to Rochester, Minn., to consult the Mayos. They continued the injections twice a week. She stayed there three months, and during this time gained twenty pounds. She came home in October with the sinus still discharging. In November she began to show signs of chronic bismuth poisoning and the injections were stopped. There was a black line along the gums; the molar teeth became loose; the patient lost weight and vomited frequently. In December she was very sick for a week with violent vomiting and diarrhea. The sinus closed in the latter part of this month. She now developed symptoms of an iliac abscess. The thigh became flexed and the patient was unable to straighten out her leg. There was marked lordosis and a hard tender mass formed in left iliac region. In the early part of February, 1909, I operated again, going down just internal to the anterior superior spine of the ilium and found pus on its internal surface, beneath the iliopsoas muscle. Mixed with this pus was about an ounce of the bismuth paste. It had been there at least ten weeks and was apparently unchanged.

The vomiting after this operation was terrific and almost caused death, lasting eight days. I put a drainage-tube down to the bottom of the abscess and injected sterile petrolatum every other day for the next month. The symptoms of bismuth intoxication subsiding, I again started to use the bismuth cautiously, using it once a week and keeping the tube in to insure free drainage. Later the tube was withdrawn as the sinus kept open without it. All during the summer of 1909 the patient lived in a tent in a pine forest, enjoying good health and coming in once a week for her injection. In October, examination showed both sinuses solidly closed and no tenderness or pain to be found. The patient said she felt better than she had for years. She is now doing her own housework and is apparently cured.

To one who has seen such patients suffering from tuberculous bone disease undergo operation after operation and finally die, such a result as this is, indeed, remarkable.

HUMAN TUBERCULOSIS CONSIDERED FROM SEVERAL VIEWPOINTS *

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ST. LOUIS

Tuberculosis in its most common form of manifestation, which is pulmonary consumption, is such a nearly universal infection, is so fully known to mankind in almost every climate and human condition, that its literature alone has reached proportions far beyond the reasonable ability of any one person to read or adequately to digest; but, nevertheless, a sketch will be attempted concerning the principal points of view from which it has been considered.

Probably the aspects that have received the widest attention and study may be grouped under four headings, namely, sanitation, statistics, sentiment, and statesmanship, and these main topics will be dealt with briefly not only in their relation to the disease named, but also in their relation to each other.

SANITATION

In the public health language of to-day this word, in the strictest sense, means prevention—that is, a watchful, unsparing, resolute, intelligent detection and destruction of every agent given off, directly or indirectly, from the body of a sick person, which can cause disease in another. In the case of tuberculosis this applies chiefly to the spittings of consumptives, and, inasmuch as this malady is ordinarily of chronic dura-

* An address delivered before the Medical Society of City Hospital Alumni, St. Louis, Dec. 2, 1909.

tion, this task of vigilant watchfulness must be maintained by physician, nurse, friends, health officer, and the patient through months certainly, and possibly years of time.

As has just been stated, such sanitation must be the joint outcome of the efforts of all these parties in order that it shall be most effective for public protection. Under a law that would require notification by the attending physician or affected family to the local health officials of the presence of a case of disease, appropriate regulations would be applied which would call for the sincere cooperation of the parties in interest, alike for the defense of the public against harmful influences proceeding from the sick-room, and for the protection of the convalescing patient against reinfection of himself or herself by undestroyed germs in the expectorated matter or other discharges.

To secure legislation adequate to cope with such dangers, and to secure its enforcement, the teaching of the public is a work of necessity, and this is usually begun by the pioneer efforts of medical men who point out the risks of promiscuous spitting, poor ventilation, and the like; and, ordinarily, such instruction is supported and supplemented by ministers, teachers, and other leaders until a state of public opinion is reached which will demand that nothing in reason shall be left undone to protect the people against either home-grown or imported infection.

Thus, when a clear perception of the danger with regard to any certain disease is reached, the way is opened for ready acquiescence in measures of sanitation aimed at other disease-breeding agents and conditions; as, for example, those that foster typhoid fever, malaria, dysentery, and the like, the sum-total of such cooperative work developing a distinct stiffening and toning-up of a community's moral and physical fiber, betokening an actually heightened power of resistance toward disease in general, together with a courage and self-reliance growing out of sound knowledge and right understanding of dangers to be faced, and the measures to be employed for their defeat.

This would mean that science, skill and sense would leave no room for demoralization, fear, or panic and that pestilential threatenings would be met with the same cool, firm judgment that should distinguish trained, orderly minds when other forms of calamity and peril are confronted.

Thus, then, the word "sanitation" epitomizes and is the expressed measure of all the forces and influences—moral, intellectual and physical—that can be summoned forth by the power of man to make war on disease; and to prove that public education is a prime factor in this question it is only necessary to point to the fact that, however perfect a sanitary law may be, it will nevertheless be a dead letter unless the live wit and perception of the people comprehend its purposes, and demand its strict, impartial enforcement against given conditions unfavorable to health.

When called before a tribunal fitted to judge in such matters, and the reason for its being is demanded, Sanitation can stand upright and with calmness and confidence make this answer: "I know the causes and conditions from which come tuberculosis, cholera, rabies, malaria, yellow fever, hookworm disease, meningeal fever, sleeping sickness, diphtheria, bubonic plague, leprosy, and still others. Give to me, therefore, the law and the money and I will strangle outbreaks of these diseases in their cradle."

On a medal struck by the English people to commemorate their deliverance from the Spanish Armada, and all that it meant, is this simple but striking legend: "His winds blew and they were not." So with respect to foes of our own, coming from former Spanish lands to the southward, it may be said, "His work was done and they are not," to mark the conquest by our medical fellow-countrymen of yellow fever and malaria in Cuba and Panama.

STATISTICS

In no way other than by carefully gathered and kept records of births, sickness and deaths, with the causes of the latter and other pertinent data made plain, can any state or community take account of its vital resources and liabilities, and learn the truth that is of fundamental importance to its own existence and well-being. Until a recent law was enacted, sad to say, there were no means by which Missouri as a state could have such an accounting. It was possible to learn such facts only with respect to certain localities, namely, the larger cities, which by local ordinance require the reporting and recording of vitality, morbidity, and mortality figures, thus affording a datum-line from which statistical measurements and conclusions respecting population, health, fecundity, sanity, longevity, etc., can be computed.

But, from the local data thus gathered taken in connection with federal census figures, and vital statistics collected under state laws elsewhere, in which the conditions of population are substantially the same as in Missouri, it is possible to approximate the truth with respect to our own state, and to make estimates in cold figures of our losses year by year from tuberculosis.

Let it be said here that the delinquency on the part of a state which fails strictly to require the recording of every birth and death tells against the intelligence and good name of its government. To illustrate, in the cold-blooded calculations of life-insurance actuaries such an omission weighs heavily; as, where the full truth with respect to health conditions is not officially discoverable, the doubt is resolved against the commonwealth, and higher rates are assessed and must be paid accordingly.

Let a glance, therefore, be taken at the estimates of losses from the single cause mentioned, which are deduced from sources just referred to as affording the only safe data for the purpose. Such a story may be to many persons like a thrice-told tale, but its constant iteration, told in passionless facts and figures, seems necessary to make an impression on that variety of the mathematical human mind called business intelligence, which scorns anything so soft as sentiment

For example, it is known that in St. Louis more than 1,000 persons die every year from tuberculosis, most of them being under middle age and in the prime of productive usefulness to themselves and the public; and, further, that for every one thus dead there are no fewer than five persons sick with that disease and tending toward the same destination. This local ratio of disease and death, when extended proportionately to the whole population of Missouri, shows an annual death-list of upward of 5,000, with probably five times that many persons similarly diseased. Your own pencils will show, if you are statistically inclined, that the dead bodies thus annually produced, if laid side by side, would extend nearly one and one-half miles—a causeway of death corduroyed by human corpses at a net cost or economic loss to the state, under its own valuation of a human life, of more than $20,000,000.

Not to speak of either the heartlessness or the stupidity of tolerating such a situation, when the test of widest medical experience has shown it to be both needless and improvident, would it not be a good business stroke for the state to enact laws and furnish funds providing for a searching survey of its own vital and sanitary status, to the end that it may accurately measure its own danger, destroy the conditions that favor such vital and economic waste, and let the world know the facts concerning its own hygienic housekeeping? Is it not a stinging indictment of a hollow civilization and doubtful Christianity that millions on millions of public money are poured out by this nation because of the fantastic conjurings of a mad militarism, when but a tithe of such profligate squanderings would save so many thousands of lives, and give physical happiness to so very many thousands more? Think what answer could be made to the question, asked perhaps by some visitor from another world curious to know something of our manners and ways: "And is this the best wisdom that the human race can show?"

SENTIMENT

As before suggested, many self-wise persons are unwilling to take account of sentiment, declaring that it can have no proper place in every-day affairs. Such persons are oblivious to the fact that sentiment sways human minds to an extent that justifies the saying that he who writes the songs of the people need have no care who makes their laws. Every sentiment that grows out of human thought or temperament must acknowledge some relationship to this serious subject. The poet's apostrophe to death denotes this:

> Come in Consumption's ghastly form . . .
> And thou art terrible; the tear,
> The groan, the knell, the pall, the bier,
> And all we know, or dream, or fear

—all these are more or less bound up in the story of this infection and its ravages amongst mankind.

Pathos and tragedy have unfailingly attended the prolonged march of successive generations of consumptives to the grave. Good and bad, high and low, bond and free, Dives and Lazarus, have alike been constrained by man-made conditions to join this procession, and no other than a flickering gleam has lighted the somber picture until within the present generation, but now the sun is risen and it has been convincingly shown that there is reason for the assured hopefulness with respect to those thus diseased; that the sentiments of dread and despair once almost universally felt are without good grounds, provided the teachings of sane judgment and sound reason are heeded.

Sentiment aside, the fact is that as man has sown so has he reaped, in this as well as other respects, the punishment often reaching to later generations, for only in this way, perhaps, can the blind and selfish greed of man be brought to a proper sense of his offending against the laws of Nature respecting health.

To rob one's brother of his rightful share of earth, air, light, and heaven, is to invite self-destruction through the evil conditions to which that brother is thus reduced; for, as oppressor and oppressed must needs breathe a common air, so an even-handed justice ordains that an environment charged with infection may prove more deadly to Dives and his friends than to Lazarus and his like—who may, perchance, through hazardous experience, have gained a degree of immunity thereto.

STATESMANSHIP

Last, but not least, come all of those organized civic forces of the state whose appointed aim is the public service and general welfare—those in whose hands lie the taxing power and the spending of public funds.

Statesmanship is defined as the quality of being skilled in the art of government, having broad, sagacious views and distinguished ability in dealing with questions arising in public affairs—in short, the art or skill of a statesman.

It has been said that he who causes two blades of grass to grow where only one grew before is a public benefactor, and this is an economic truth simply stated, for it means that that particular form of subsistence is doubled—two heads of wheat, two loaves of bread, two dollars instead of one—briefly so much wealth and comfort added to the world; and statesmanship recognizes the obligation thus conferred.

But how about him who causes two human lives to develop in health and vigor where but one survived before? Has statesmanship recognized in any tangible manner in these days the economic gain and public value of such an achievement? If the lives thus saved had been those of chattels under the law, as was the case here in Missouri fifty years ago, there can be no doubt that the answer would have been in the affirmative; but, unhappily, now the reply must be "No," for human life has been, and is yet, held so cheaply in a general sense that little more than conventional regret is expressed over the wastage by preventable disease of those in their prime, and whose expectation of life reasonably should not be below the scriptural limit. Usually it is only when the grief of a personal loss is felt that concern is expressed by the man of affairs, who before knew little and cared less, respecting the conditions that give headway to tuberculosis.

The experience of an active health official in a neighboring state will illustrate this point. He was trying to raise funds to make a fight against consumption and called on a rich man, a business and social leader in his own city. After some explanation he was given a small contribution for that purpose. Three years later this man called on the official and reminded him of the former meeting, saying, among other things, that he had given the money to get rid of him, as he had an engagement, and added: "My daughter is dead of tuberculosis. I understand the subject now. I want to contribute. Furthermore, I regret that the infirmities of age make it impossible for me to give my services." Incidents such as this are not uncommon—men of business judgment, prudence and foresight are dead, as it were, to the danger of attacks by a subtle foe, the hour or place of which can never be certainly known. You or I, you and I, here or elsewhere, may be the next to yield to this insidious power. Here is a field, indeed, for the statesman's skill involving no abstract considerations that concern a few only, but a thing that may come near to or touch sooner or later the purse, the health, the life of every person in the state.

To summarize: What is a fair conclusion of this whole matter?

If the case has been clearly and honestly stated the answer is plainly this:

1. In thorough-going sanitation, rightly supported and directed, is to be found the weapons and resources with which a now pandemic infection may be met and overthrown.

2. Statistics, properly collected and kept, afford the only true measure of health or disease in a given body of people, and constitute and index showing where sanitation is needed, and how it should be applied.

3. Sentiment, the sense of loss or fear of loss in the individual and public, is often the compelling cause or force that moves a heedless or ignorant people to better things in public health affairs.

4. Statesmanship, rightly directed, possesses the promise and power of fundamental changes in economic directions through enlightened legislation, and in the supplying of funds needed for overcoming disease. These possibilities are now only dimly seen, but when realized in public policy and law will foreshow the virtual extinction of tuberculosis, as a population infection, and which now looms as the appointed destroyer of a very considerable percentage of the civilized world's human inhabitants.

323 Odd Fellows Building.

A CASE OF STENOSIS AND ATRESIA OF THE ALIMENTARY TRACT WITH IMPERFORATE ANUS

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CINCINNATI

History.—The history of both parents was negative. Labor was normal except that the amniotic fluid was distinctly increased in amount. The infant, a male, weighed 6 pounds. The cry was feeble. Imperforate anus was found when the baby was washed. Twelve hours after birth vomiting commenced, arousing a suspicion that an occlusion might exist in upper part of alimentary tract. The vomitus was bile-stained and continued at frequent intervals until death sixty hours after birth.

Post-mortem Examination.—A median perineal incision disclosed the blind end of the rectum about three-quarters of an inch from the surface. The bowel contents were grayish white and flaky, not resembling the meconium. The introduction of a probe showed this part of the bowel to be closed about 1½ or 2 inches farther up. On removing the stomach and intestines it was found that the large intestine (containing meconium) ended in a blind extremity, which lay alongside of the upper closed end of that segment of bowel which had been opened from below. In other words, there was imperforate anus plus atresia of the large intestine higher up. There was a Meckel's diverticulum three-quarters of an inch long, about six inches above the ileocecal valve. This diverticulum had no adhesions. The stomach showed an hour-glass contraction involving chiefly the greater curvature. This stenosis allowed the passage of a good-sized probe.

Two features of practical importance in this case were:

1. The early onset of vomiting, pointing to some other complication besides imperforate anus.

2. If this infant had been operated on, the rectum could readily have been found, but the absence of meconium would have led to a search for the atresia higher up. The presence of meconium, on the other hand, does not exclude the possibility of atresia of the intestine higher up, according to Kuliga,[1] who believes that intestinal atresia is comparatively late in its development, after bile secretion had commenced. But it seems very unusual, at least, to find meconium below a congenital atresia, even if, in the supposed cases, we admit the dark-colored substance to have been meconium, a statement not yet proved.

As for the ever-recurring question of etiology, in this case there were no signs of adhesions, peritonitis or any constricting bands. The very plausible theory of Kreuter[1] seemed to fit pretty well. Kreuter found, from a study of human embryos between the ages of 4 and 10 weeks, that after the alimentary canal had been formed there occurred a rapid growth of the lining cells, which ultimately caused an obliteration of its lumen. After a short period in this condition the rapid growth of the bowel wall caused a complete re-establishment of the lumen. Some of this had been known before, especially in the development of the duodenum,[2] but had not received attention as a generally applicable explanation of congenital atresia. Kreuter believes all these cases to be due to failure in the re-establishment of the lumen.

1209 Walnut Street.

1. Referred to by Kreuter: Die angeborenen Verschliessungen und Verengerungen des Darm-Canals im Lichte der Entwickelungsgeschichte, Deutsch. Ztschr. f. Chir., 1905, lxxix, 1.

2. Tandler: Anat. Anz. (Erganzungsheft), 1900, xvlii. Mentioned in Quain's Anatomy, Ed. 11, Vol. i, on Embryology, in a footnote to p. 163, on the alimentary tract).

THE OPSONIC INDEX OF BACILLUS-CARRIERS*

ALICE HAMILTON, M.D.
CHICAGO

The importance of the typhoid carrier as a conveyor of infection is being impressed on us daily, and we are greatly in need of some method for detecting such persons which is quicker and less cumbersome than the bacteriologic examination of stools and urine. Aside from the fact that the latter takes usually several days to carry out, there is the further disadvantage of intermittency in the excretion of typhoid and paratyphoid bacilli, which makes it possible for a carrier to escape detection for weeks or even months if the specimens are collected during one of the germ-free intervals. The agglutination test is positive in a certain proportion of carriers, but in the opsonic index we have apparently a means of diagnosis more rapid than the bacteriologic examination and more constant than the agglutination test. Gaehtgens[1] recently examined the opsonic index of 12 typhoid convalescents who were not carriers, and of 16 chronic typhoid carriers. He found that while the former lost their high index to the typhoid bacillus within three or four months after recovery, the carriers, with one exception, had a persistently high index lasting for months or years. On the other hand, only 75 per cent. of the carriers gave a positive agglutination.

Recently I undertook a search for typhoid carriers among 24 persons who had a history of gall-bladder disease, making the agglutination and opsonic tests during the time occupied by the bacteriologic examination. Seven of the 25 (28 per cent.) had a decidedly abnormal index to typhoid or paratyphoid bacilli, sometimes to both. Repeated opsonic examinations showed that in those persons the index was always abnormal. Those who were at the time suffering from acute symptoms had a fluctuating index, now below normal, now very high, while the others had always a high index, never falling to normal. Five of these seven persons agglutinated typhoid or paratyphoid bacilli or both in dilutions of 1 to 50 or more. The bacteriologic examination showed that all seven were bacillus-carriers, five of paratyphoid bacilli and two of typhoid. Of the seventeen non-carriers, none agglutinated either variety of bacilli in dilutions as high as 1 to 50 and none had a decidedly or persistently abnormal index. As the opsonic index was abnormal in 100 per cent. of the car-

2. Tandler: Anat. Anz. (Erganzungsheft), 1900, xvlii. Mentioned in Quain's Anatomy, Ed. 11, Vol. i, on Embryology, in a footnote to p. 163, on the alimentary tract).

* From the Memorial Institute for Infectious Diseases.

1. Gaehtgens: Deutsch. med. Wchnschr., 1909, xxxv, 1337.

riers and the agglutination test in only 71 per cent. the former is evidently the more valuable procedure for the detection of carriers.

The test can be made rapidly and easily, and in case of an unexplained epidemic in an institution where a large number of persons would have to be examined the work would be simplified by first taking the opsonic index of all the suspects and making a bacteriologic examination of the stools of those who showed an abnormal index.

In making these tests the serum both of the control and of the suspected person should be heated to 58 C. for 15 to 20 minutes. By this means the lysin for typhoid bacilli is destroyed while the heat-resisting element in the opsonin remains, making a decided contrast between normal serum, which contains but very little of this element, and immune serum which is usually very rich in it.

1745 West Harrison Street.

A NEW TONSILLOTOME

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SUPERIOR, WIS.

The frequent necessity for removing the tonsils has given opportunity for the invention of a variety of instruments. Many of these are clumsy and others are inefficient, as I know from personal experience. The most popular instruments are the tonsillotome and the scissors.

A new tonsillotome.

The scissors operation, if rightly done, is effective, but the difficulty in operative manipulation is considerable. The tonsillotome is the most desirable instrument for the average operator to use, but the trouble with the tonsillotomes on the market has been heretofore that only a partial removal of the tonsil was possible, in that only as much of the tonsil as projected beyond the faucial pillars was removed. All beneath that plane was left, and this is usually the most dangerous part of the tonsil. The dictates of modern teaching is to the effect that all of the tonsil should be removed.

With the idea of utilizing the tonsillotome feature I have devised the instrument shown in the cut. The cutting mechanism is placed at right angles to the shaft, thus allowing it to be placed down between the pillars of the fauces.

If adhesions exist between the tonsil and the pillars, as is often the case, they are severed. I have devised an oblique angle scissors for this purpose, but this is not material. When the tonsil has been made free the tonsillotome is slid down over it and the tonsil quickly removed.

I believe that this instrument will be of material assistance to many in executing what is usually a very awkward and incomplete operation. The mechanism is very simple. Aside from the finger-rings, there are only two pieces. These are nicely tongued and grooved the entire length of the shaft to insure precise and firm coaptation of the blades. The whole instrument may be slid apart instantly for cleaning, without so much as adjusting a screw. The tonsillotome can be operated with equal facility on either side.

1708 Ogden Avenue.

VACCINES IN ACUTE AND CHRONIC OTITIS MEDIA

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Although in late years bacterial products prepared in one way or another have been used in almost every conceivable pathologic condition, and especially in localized inflammatory processes, there is little in the literature on the application of inoculation treatment to otitis media. It would seem from the fact that this is a strictly local disease, and from the ease with which the causative organisms are isolated in the majority of cases, that this condition would lend itself particularly well to treatment by specific vaccines. The fact of its use is mentioned by a number of writers, but little is said of the value of the treatment in this particular disease. For these reasons I desire to report the following cases:

CASE 1.—Private J. H., Hosp. Corps, U. S. A., aged 41. Date, Aug. 2, 1908.

History.—At 15 the patient had discharge from right ear; at 25 had malaria; for past ten years has been troubled with excessive amount of wax in the ears.

Present Condition.—About a week ago his right ear began to ache and he put sweet oil into it. Ear continued deaf and painful and three days ago a purulent discharge began. On examination the nasopharynx is found to be normal except for some congestion; Eustachian tubes are both readily inflated by Valsalva's method. Left ear, normal. Right ear, external auditory canal full of pus, drum red and thickened, small perforation in posterior lower part.

Treatment and Course of Disease.—Lavage of canal daily followed by thorough drying. Inflation through Eustachian catheter.

August 4: Drum red and thick. Discharge continues.

August 5: Pain and discharge stopped. The local treatment is continued until August 11, when, the symptoms having entirely subsided, the treatment is stopped.

August 17: Profuse discharge and considerable pain. Agar tube is inoculated from the pus. Local treatment again given twice daily until August 20, when it is stopped.

August 21: The purulent discharge continues unabated. The culture made on August 17 shows a diplo-bacillus belonging to the *Mucosus capsulatus* group, apparently in pure culture. A vaccine is made from this culture and on this date 1 c.c. is injected. In three or four hours after the injection the site of injection is red and swollen and the patient says he feels as if he had the grip. These symptoms are all gone in twelve hours.

August 25: The discharge has entirely stopped. No pain; 1 c.c. vaccine injected. No reaction.

August 31: No return of pain or discharge. Drums look normal except for a small red spot at the site of the perforation.

July 1, 1909: The patient has remained to the present time without any return of the disease.

CASE 2.—Corporal G. B., First U. S. Cavalry, aged 35. Date, Aug. 16, 1908.

History.—Patient had smallpox when a child; malaria two years ago; dysentery one year ago. Six months ago felt tickling sensation in right ear and afterward a purulent discharge began and has continued to the present time.

Present Condition.—Patient complains of tickling sensation in right ear and of a purulent discharge from it. On exam-

ination the nose is found to be normal except for slight roughening of the septum, where a spur was removed about a year ago. Left ear normal. Right ear: External auditory canal contains a dirty-white purulent material; drum is thickened and all of the central part is covered with granulation tissue; around the periphery the drum has a normal color; short process very prominent, manubrium cannot be seen; drum bulges out when Valsalva's method of inflation is used.

Treatment and Course of Disease.—Aug. 16, 1908: Lavage of ear with hot phenolized water followed by careful drying. Spraying of menthol in alcohol through Eustachian catheter.

August 17: Culture on agar shows a diplococcus and a bacillus which is identified as *Bacillus pyocyaneus*. A vaccine is made from a mixed culture of these two organisms and on this date 0.5 c.c. is injected. This is followed in a few hours by decided increase in the discharge from the ear and considerable pain.

August 18: Marked swelling of the tissues around the auditory canal and free discharge. Patient complains of considerable pain. Local treatment is continued.

August 21: A culture is again made from the discharge and shows the same organisms. A vaccine is made after plating and securing the organisms in pure culture.

August 28: Discharge and pain continue.

September 1: No lessening of pain or discharge; 1 c.c. of the second vaccine is injected. No reaction.

September 3: Pain entirely stopped; discharge much less in amount.

September 9: Slight discharge and no pain; 1 c.c. vaccine given.

September 18: No discharge and no pain; 2 c.c. vaccine given. No reaction.

October 4: No discharge and no pain since September 13; 1 c.c. vaccine given.

October 28: No return of the pain or discharge. Drums look normal except for slight retraction. Inflation easy by Valsalva's method. The local treatment was stopped in this case on August 28.

July 1, 1909: Patient has never had any return of trouble with ear.

CASE 3.—Private H., First U. S. Cavalry, aged 38. Date, Aug. 27, 1908.

History.—Patient had measles, typhoid, and malaria when a child. Never any trouble with ears before.

Present Condition.—Patient complains of severe pain behind angle of jaw and in left ear. On examination right ear is seen to be normal. Left drum is red and bulging.

Treatment and Course of Disease.—August 27: Drum of left ear is incised; followed by discharge of thick white pus. Lavage of canal daily with warm water and inflation through Eustachian catheter. This treatment is continued for a period of one month, until September 27, when a culture from the discharge shows the *Staphylococcus pyogenes aureus* in pure culture. On this date the discharge is profuse and there is considerable pain.

September 27: A vaccine was made from the culture of the staphylococcus and diluted to contain 500 million organisms to the cubic centimeter. One c.c. is injected on this date. Injection followed in three or four hours by feeling of malaise and by a chill.

September 30: Discharge entirely stopped. Drum looks uniformly red but there is no swelling of the external auditory canal as on September 27. On account of absence from the post the patient was not seen again for ten days.

October 10: Discharge has not recurred and no pain has been felt in the ear. Drum looks moist and white and a small granulation is present on the posterior half; 1 c.c. of the vaccine is injected. No reaction.

October 31: No return of the pain or discharge. Drum looks normal except for slight retraction. Readily inflated by Valsalva's method.

December 7: No return of the disease.

July 1, 1909: No recurrence of the disease to the present time.

CASE 4.—Sergeant S., U. S. Cavalry, aged 26. Date, May 28, 1909.

History.—Patient had measles when a child; dengue in 1906; never any trouble with ears before.

Present Condition.—Patient went swimming on May 12, and three or four days afterward noticed aching and soreness in the left ear. He says that on the night of May 27, something broke in the ear and that it afterward felt better; a profuse discharge began after this. Examination, May 28, shows the tissues around external auditory canal to be greatly swollen; I am unable to see the drum except in its posterior part, in which a large perforation is visible. Left tube can be inflated only by catheterization, but is readily inflated by this method.

Treatment and Course of Disease.—May 28: Lavage of canal twice daily with warm phenol solution followed by thorough drying. Daily inflation of Eustachian tube.

May 31: Discharge continues; yields cultures of *Bacillus pyocyaneus*. Vaccine is made from this and is diluted to contain 250 million organisms to the cubic centimeter.

June 3: No improvement; 0.5 c.c. vaccine injected. Local treatment stopped.

June 4: Pain in ear somewhat increased and site of vaccine injection red and swollen.

June 6: Pain has disappeared and discharge stopped.

June 12: No return of pain or discharge; 1 c.c. vaccine given. No reaction.

June 30: No return of any of the symptoms. Ear drum looks normal.

August 1: Patient has remained well to the present time.

CASE 5.—Private M., First U. S. Cavalry, aged 24. Date, May 15, 1909.

History.—Patient had measles and typhoid when a child; had acne for many years until about two months ago, when the lesions all disappeared after a course of treatment lasting for several months with an autogenous vaccine of *Staphylococcus pyogenes albus*. About middle of March of this year, during target practice, his left ear became very painful and shortly afterward pus began to run from it. On May 15 the right ear also began to discharge.

Present Condition.—Profuse discharge from the right ear. Canal so swollen that the drum cannot be seen. Ear is washed out thoroughly each day and afterwards dried. Eustachian tube inflated daily and air is heard to escape through the drum.

May 19: Swelling of canal abated sufficiently to allow drum to be seen. Perforation just below short process. Discharge is profuse and pain continues.

Treatment and Course of Disease.—May 26: Culture is made from the discharge and vaccine prepared.

May 30: Discharge continues; 1 c.c. vaccine injected.

May 31: Patient admitted to hospital with temperature 104; extreme prostration. Site of the vaccine injection much swollen.

June 2: Patient feels well again. Temperature normal. Discharge from ear very slight.

June 5: Soreness and discharge have entirely stopped in both ears. Drums in both ears look normal except for small red spot at site of perforation in the right. Both readily inflated by Valsalva's method.

June 19: No vaccine has been given since the first dose on account of the severe reaction obtained at that time. There has been no return of the pain or discharge. Both drums look normal. Both are readily inflated by Valsalva's method and show no retraction; 0.5 c.c. vaccine given. No reaction except slight redness at the site of injection.

August 1: No return of any of the symptoms.

CASE 6.—Private C., First U. S. Cavalry, aged 26. Date, May 24, 1909.

History.—Patient had gonorrhea one year ago; malaria a few months ago; has secondary syphilis at the present time. He went in swimming two weeks ago and a day or two later his left ear became painful and began to discharge.

Present Condition.—On entrance to hospital the left auditory canal was so swollen that the drum could not be seen On inflation through catheter air is heard to escape from a perforation in the drum.

Treatment and Course of Disease.—Daily lavage of the canal with warm phenolized water and thorough drying. Inflation through catheter.

May 26: Drum can now be seen; it is thickened, white, and moist. No perforation can be distinguished. Local treatment is continued until June 1, when a culture from the pus shows *Bacillus pyocyaneus* in pure culture. A vaccine is prepared from this and diluted to contain 250 million organisms to the cubic centimeter.

June 3: Five-tenths of a cubic centimeter vaccine injected.

June 4: Discharge a little more profuse; redness at site of the injection. Patient not seen again on account of field work until June 13, when the canal was still somewhat swollen. No discharge; 1 c.c. vaccine given.

June 28: Arm remained red and slightly swollen for about a week after last injection so that no more was given until to-day. Patient says that he has had no pain in the ear since the last injection and that there has been no discharge. On inflating the tube by Valsalva's method air escapes from the perforation and with it a drop of watery fluid; 1 c.c. vaccine given. No reaction.

July 17: No pain or discharge. Drum looks normal except for slight congestion along manubrium. Inflation easy by Valsalva's method.

August 1: Ear looks normal. No return of any of the symptoms.

Twelve cases besides those reported here have been treated with vaccines, but the results in all, with two exceptions, have been similar to those obtained in these. Of these two exceptions, one was of eighteen months' and the other of two years' duration, and in both of them at times there were found small pieces of bone in the discharge. These patients improved under the vaccine treatment from time to time, but always relapsed. It is believed that the vaccines would be of assistance even in this class of cases, but operative interference would probably be necessary to remove the necrotic tissue. In most of the cases treated the local treatment was stopped when the vaccines were started in order that the two methods might be compared, but it would obviously be much better to use both together in order to obtain the good effects of both.

To avoid the reactions reported in some of these cases the vaccines are now made to contain 250 million organisms to the cubic centimeter, and for the first dose only 0.5 c.c. is injected; if there is no reaction with this the dose is repeated in five days, but if there is reaction the second dose is deferred for a week. When 0.5 c.c. can be given without reaction the dose is increased to 1 c.c., and this is continued at weekly intervals until a cure is accomplished. No opsonic counts were made in these cases, and I believe that the clinical symptoms are sufficient to base the dosage on if the initial dose is small and the rate of increase very gradual.

The vaccines in these cases were prepared by inoculating agar tubes with a platinum wire from the discharge as it issued from the perforation in the drum, or if this could not be seen then as close to the drum as possible. If more than one organism was found the culture was plated and vaccines made from cultures of the separate organisms recovered; these were then diluted to contain a certain number of germs to the cubic centimeter and then mixed in equal proportions. I believe that better results are obtained by this method than by making the vaccines directly from a culture which is a mixture of two or more organisms, as is sometimes done. When the germs are grown together one may develop more rapidly than the others, so that the vaccine does not represent all of the causative organisms. The time that it takes for plating is not an objection to the method, for it is found that in the acute cases only one kind of organism is present in the majority of instances, and that plating is necessary only in the chronic cases.

It has been stated so often by writers on vaccines that they are not to be considered "cure-alls" that it seems unnecessary to repeat it, but that they are efficient aids in the treatment of many morbid conditions it is now impossible to deny. No one can treat by inoculation one of these obstinate cases of otitis media which refuse entirely, or only after the most prolonged treatment, to yield to local means, without reaching the conclusion that bacterial inoculation is a powerful agent for the cure of this disease.

Therapeutics

PNEUMONIA

Those who believe that didactic teaching is not an important factor in the instruction of medical students should read the lecture on the treatment of pneumonia by Dr. Frank S. Meara, of New York, Professor of Therapeutics in Cornell University Medical School (*New York Medical Journal*, Jan. 8, 1910).

The didactic lecture will always have its part in the curriculum of medical instruction. Text-book recitations and explanatory talks on the text can never be quite so complete as the condensed, composite picture presented by an able instructor in the form of a lecture.

Pneumonia is a general infection with a primary local manifestation in the lungs. There is no specific treatment, but the proper management of all details in the care of the patient causes a splendid percentage of recovery from this disease, which tends to recovery less than most acute infections.

Meara well discusses the treatment of bronchial pneumonia and lobar pneumonia together, as the management is certainly almost the same, with the difference that bronchial pneumonia is a disease of early childhood, of old age, and sometimes secondary to other infections, and to anesthesia; while lobar pneumonia may occur at any time of life. The duration of bronchial pneumonia is indefinite. Lobar pneumonia typically is self-limited, and from this standpoint tends to recovery, but complete recovery in any given length of time depends on the management of the patient. In other words, lobar pneumonia to-day is a very serious disease. The increase of circulatory defects, which is enormous, as shown by statistics, has made lobar pneumonia a much more serious proposition than it was twenty-five or even ten years ago, as the greatest strain comes on the heart. Also, the permanent recovery of lung and heart is more tedious and more doubtful than ten years ago.

Meara divides the management of pneumonia under various heads and shows how important the sun and fresh air exposure is if the patient cannot be actually put on a veranda; how important it is that the bed should be just right for the patient's comfort and for the ability of the nurse to handle the patient comfortably; how important it is that the patient should have the most comfortable, absolute rest compatible with his needs and wants; and emphasizes the fact that a weakened heart may be pushed to acute injury or even final collapse by an unnecessary physical exertion.

The necessity for slightly changing the position of the patient frequently is emphasized. This is especially true of older persons in whom hypostatic congestions due to impaired circulation can aggravate the dyspnea and

cardiac tire in pneumonia, or can even allow edema of the lungs to occur.

Meara emphasizes the necessity for a bed that does not sag in the center, which is true for all patients suffering from acute disease. Backaches and muscle tires are eliminated if such a condition of the bed is prevented. The feet should always be kept warm in pneumonia, more perhaps than in most diseases, as the better the peripheral circulation the less the internal congestion.

The temperature of the room should be down to from 65° to 70° even in mid-winter, and if the wind blows dust or snow through the open windows Meara suggests putting cheese cloth screens over them.

The open-air treatment is strongly advocated, and Meara is certainly right in declaring that the temperature will be lowered, dyspnea diminished, sleep induced, and the necessity for cardiac stimulation reduced to a minimum.

The preparation of the patient for open-air treatment in winter he carefully describes as follows: A blanket is spread over the woven wire spring large enough to extend beyond the sides and below the foot. Over this is spread a rubber sheet or paper and then the mattress. Next the blanket and rubber sheet are folded up over the mattress and secured with safety pins. The patient is clothed in a light suit of flannel, stockings and a hood. He is covered with enough to keep him warm. The lighter weight warm clothing, such as eiderdown quilts, if possible, are preferable. A hot-water bag at the feet completes the equipment.

Very strenuous hydrotherapeutic measures which are so well described by Baruch and referred to and quoted by Meara are not needed in the fresh-air treatment of pneumonia.

It is becoming more and more recognized that increased temperature is one of Nature's methods of overcoming an infection. Consequently the mere matter of high temperature, even to 104 F., and if short-lived to 105 F., does not require active antipyretic measures in pneumonia. Coal-tar products certainly should not be given, except possibly for a dose or two on the first or second day of the fever. Aconite and veratrum viride should not be given. In other words, the heart must be protected from everything that will affect its strength from the very beginning of pneumonia. Hyperpyrexia, or prolonged temperature of 104 F., can be well combated by rolling the bed of the patient into a warm room or closing the windows and warming up the room in which he is ill, and sponging him with tepid, cool or cold water, depending on the height of the fever.

For cleanliness the patient, unless critically ill, should be sponged daily with hot water or with tepid water. Meara emphasizes the necessity for careful cleansing of the mouth, nostrils and eyes of pneumonia patients. The exact method and the simple solutions used may depend entirely on the choice of the physician and nurse. There is nothing that better shows the ability of a nurse than the condition of the tongue, teeth and mouth of a seriously ill patient.

Whatever is done for the patient must be done at regular intervals, as prolonged periods of rest with as little disturbance as possible are very important desiderata in pneumonia.

Meara goes into careful details of the calories needed by a patient with fever, and the calories furnished by different types of food. Suffice it to say that the patient with pneumonia ordinarily should not be under-fed, but the greatest care should be exercised that the food allowed does not cause either gastric or intestinal indigestion. There is a tendency from the disease alone to intestinal distention and tympanites, which is serious and may be the actual cause of the patient's death. Such distention which prevents the proper action of the diaphragm may be the last straw to a laboring heart.

It is a mistake to believe that a patient who has high temperature can long stand his disease without sufficient nutrition. While the nutrition is not of so much importance in pneumonia as it is in typhoid fever where the febrile process is so much longer continued, it will still often be the difference between life and death as to whether a patient is properly nourished. Too large an amount of any single food, or too much of any combination of foods, will certainly cause maldigestion and add toxins to the blood that is already surcharged with the toxins of the disease, and the result will often be an overwhelming of the nervous system and death.

Cerebral irritation, insomnia, delirium and meningismus are often the results of constipation or insufficient evacuation of the bowels, an overloaded stomach, sluggishly acting kidneys, and a dry skin or a skin covered with perspiration that has not been properly removed. All these preventable conditions are factors in causing these cerebral complications. Therefore, proper daily evacuation of the bowels with a simple laxative tablet or with an enema, the ingestion of plenty of water, the proper care of the skin, and the prevention of indigestion will generally keep the cerebrum free from irritation.

Theoretically, a quart of milk, one or two raw or coddled[1] eggs, a cup of thin oatmeal gruel, the expressed meat serum from a pound of chopped steak, a little salt, the juice of one orange, perhaps a cup of coffee in the morning, and plenty of water during the day (unless the heart is failing and there are edemas) will furnish the nutrition needed. Any indigestion, or a particular dislike for any one article of food, should be quickly met by a change. Some patients cannot take unmodified milk, and various preparations of it may be substituted, or various methods of administering cooked milk may be substituted.

In the beginning of pneumonia, as in the beginning of all infections, a dose of calomel is generally indicated. Meara, in consonance with many clinicians, advises small doses of calomel frequently repeated. This method of administering calomel is not to be advised, as much better results are obtained by giving the amount the patient apparently requires, viz., rarely more than 3 grains, often but 2, administered with 10 or 15 grains of bicarbonate of soda, and often coincidently with an aloin compound tablet. The resulting evacuation of the bowels is generally all that is desired. If not, some simple saline cathartic may be administered. Later in the disease other laxatives are better, and catharsis is rarely indicated.

If in spite of careful management of the diet and of the bowels meteorismus occurs, a colon tube should be passed to evacuate the gas in the lower intestine. If the temperature is high, an ice coil over the abdomen will reduce the temperature, cause tone to the intestines, and often is more efficient than the much-advocated hot turpentine stupes in causing expulsion of the intestinal gas. Enemata containing turpentine are advised, but it is rarely that rectal injections will relieve tympanites of the small intestine. Such distention is generally caused by paresis of the muscle coats of the intestine, and sometimes strychnin hypodermatically may be effective, in

1. A coddled egg is an egg broken into boiling water after the water has been removed from the fire.

doses of 1/30 of a grain, three or four times in twenty-four hours, if the condition is not serious. Sometimes eserin (physostigmin) given hypodermatically is effective in removing the condition. Aseptic ergot, injected intramuscularly, is sometimes of the greatest value in restoring tone to the intestines.

The first pain in pneumonia certainly requires morphin, as this pain can be severe enough to cause considerable cardiac depression, to say nothing of suffering. There is no question that hot moist applications over the side affected tend to prevent the necessity for much morphin. Whether advisable or not depends on the decision of the individual physician. They have done good; they can do good. On the other hand, they are not a necessity and patients will often do as well without them. They should not be used if a trained nurse is not in attendance, and they should not be used unless the patient is surrounded with all the comforts needed to properly change and readjust such moist applications.

Meara believes that the patient should not receive an expectorant, stating that these preparations tend to upset the stomach. This is perfectly true of expectorants as they are written. It is not true of ammonium chlorid administered in sour mixture. If the cough is out of all proportion to the necessity for expectoration, codein should be given. If the mucopus is sticky and adhesive, ammonium chlorid will render it more liquid and easy of expectoration. The following prescription is a type of what is meant by a sour cough mixture:

R.	gm.	or c.c.	
Codeinæ sulphatis	20		gr. iv
Ammonii chloridi	5	or	ʒiss
Syrupi acidi citrici	50		fl.ʒii
Aquæ, ad	100		ad, fl.ʒiv

M. et Sig.: A teaspoonful, in a wineglass of water, every two, three or four hours, as deemed necessary.

Of course, the codein could be left out of the above prescription if it is not indicated. If it has seemed advisable to apply moist hot applications to the chest, these alone seem to render the expectoration easier.

If in spite of the fresh-air treatment, of proper evacuation of the bowels, and of the carefully regulated diet, cerebral irritation and insomnia occur, the hypnotic selected will depend on the condition of the circulation. If the circulation is good, as advised by Meara, "trional (sulphonethylmethanum) in 10-grain doses, in a warm drink, or in a little wine or whisky, or chloralamid, 20 grains," administered in a little cold whisky and water, may be given. Meara states that either of these may be repeated in one or two hours, if needed. Hyoscin hydrobromid is often efficient as an hypnotic in pneumonia. Veronal-sodium, in 5-grain doses, is another good hypnotic. If the circulation is weak, the safest hypnotic is morphin, and this, as Meara states, will often be efficient in small doses, from 1/12 to 1/8 of a grain.

Venesection may be indicated in the first stage of pneumonia in plethoric individuals, and certainly has saved life. Brisk purging, the stopping of pain with morphin, and a hot foot bath will often relieve the necessity for venesection. If the heart begins to fail later in the disease, the sheet anchor should be strychnin, but this drug should never be pushed. Except in emergencies, temporarily, the frequency of strychnin should not be more than once in six hours, hypodermatically, in 1/30 of a grain dose. If a smaller dose is given, it may be administered more frequently. Meara places a great deal of faith on digitalis and strophanthus. Many clinicians believe digitalis of value in the failing heart of pneumonia; but, on the other hand, and with more reason, an equal number believe that digitalis should never be used in that condition.

If the circulation is failing, a careful analysis should be made of it. Is the heart acting weakly? Is it rapid? Is the pulse tension high or low? Is the patient cold, and is there profuse perspiration? Is the patient hot and dry? Are the feet cold? Is the head hot? Are the lips blue? Is there marked dyspnea? The first caution is certainly not to do too much. While oxygen may be helpful to the patient, there is nothing that will compare with the fresh air of an open-air or practically open-air treatment. The feet should be kept constantly warm with hot-water bags. The hot-water bag over the heart is of advantage. If the pulse tension is low, strychnin is indicated, and so is adrenalin; and, as above stated, Meara believes in digitalis and strophanthus. Meara administers adrenalin solution in doses of from 10 to 15 minims, injected into a muscle. Ampules of adrenalin, 1 to 10,000, are now prepared ready for subcutaneous administration. If the skin is hot and dry, pulse tension pretty good, but the face badly congested, alcohol may do a vast amount of good. The amount should not be sufficient to disturb the cerebrum. If it acts well it will dilate the peripheral blood-vessels, slow the heart, increase perspiration, and cause warming of the extremities. If all the vital centers of the body seem depressed, strychnin is certainly the sheet anchor, but it should not be used to excess, as above cautioned. If there is profuse cold perspiration, with failing circulation, hypodermatic injections of atropin, in 1/150 of a grain dose, once in six hours for a few times, is good treatment. If the brain is becoming clouded and the lungs edematous and the pulse tension is low, intramuscular injections of an aseptic preparation of ergot are often of great value.

Hypodermoclysis is probably rarely indicated in pneumonia. Much more work is put on the circulation to dispose of the increased amount of liquid at a time when it is working at a disadvantage. When the lungs are imperfectly clearing and when mucus and exudates are increasing in the lungs, physiologic salt solution would seem contraindicated.

In convalescence from pneumonia, the greatest of care should be exercised to protect the heart, which has been so severely overworked, from becoming more or less dilated and from permanent damage to its musculature. The increase of food should be carefully regulated, getting up should be very gradual, and all heart tire from the early ambulatory condition should be carefully guarded against. Not only the lungs need repair after pneumonia, but also the heart.

A patient is rarely thoroughly over the effects of pneumonia for six months, and if he is able financially to go to a warm climate, if it is winter, or to a dry climate if it is some other season, and rest for two months after his apparent complete recovery, his lungs and heart will be guarded against sequelæ from pneumonia.

Americans Live Wastefully.—Americans, poor and rich, live wastefully. This cannot continue. A new basis must be established which shall, while avoiding the extreme care and economy of continental Europe, which destroys initiative and kills pride, stop the major wastes in our system of living. But of more importance than mere economy of living is the influence of the environment and method of living on the race. Will out of it all in the long run come a strong and virile race of people—a race capable of meeting the complex problems of the future and advancing still further our civilization?—From inaugural address by H. J. Waters, president of Kansas State Agricultural College, *Science*, Dec. 3, 1909.

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[*For other information see second page following reading matter*]

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ACTIVITY OF COMMERCIAL SUPRARENAL PREPARATIONS

We have frequently had occasion to call attention in these columns to the need of physiologic standardization of certain important remedies such as digitalis, ergot, and suprarenal preparations. Physiologic standardization of the antitoxins, from the introduction of these remedies, has been a *sine qua non*, and there is an increasing demand that tuberculin and other vaccines be standardized before being tried on the patient. The recent publications of Hale and Edmunds and other workers have shown that the need for more uniform preparations of digitalis is no less imperative.

Schultz[1] has just published the results of a careful examination of samples of the suprarenal preparations on the American market which illustrates once more the need of more care in the methods of preparing or keeping this important drug. Of the six different products, only two were of the strength claimed; the others varied from 3.7 to 66.6 per cent. of this strength. This is the third paper on this subject to which we have called attention. Hunt, in 1906, showed that some of the preparations labeled 1 to 1,000 had only one-fifth the activity of others bearing the same label. Sollmann and Brown, in Cleveland, showed the activity of eight commercial preparations to differ greatly. Schultz is careful to give the serial numbers of the manufacturers so that the firms will probably be able to determine the date of manufacture, and we have no doubt that they will be ready with explanations of how the products were old or had been improperly kept by the retailers, etc. The fact remains, however, that inferior preparations are on the market and are probably passing into the hands of physicians daily. It is clearly the duty of the manufacturers to devise some means of preventing this, either by greater care in the manufacture, by a system of recalling the preparations after a certain date (as is done in the case of the antitoxins) or by giving the pharmacist more explicit directions as to how to keep them. There are reasons for believing, however, that some of the firms preparing this and some other drugs requiring physiologic standardization are not properly equipped for the work.

1. Quantitative Pharmacologic Studies: Relative Physiologic Activity of Some Commercial Solutions of Epinephrin, Bull. 61, Hyg. Lab., Bureau of Public Health and Marine-Hospital Service, Washington, D. C., 1910.

Schultz's results with the synthetic suprarenin are interesting. This product was for some time advertised as being as active as the natural base and having certain advantages, such as greater stability, over the latter. Schultz confirms his earlier work, as well as that of Cushny and others, that the synthetic product has but approximately one-half the activity of the natural base—a fact which has been recognized, somewhat tardily, by the manufacturers themselves. Apparently, from Schultz's results, solutions of the synthetic product do not possess superior keeping qualities, although it seems probable that its salts are better suited for the extemporaneous preparation of solutions by the pharmacist or physician.

All this emphasizes once more the necessity of the medical profession exercising, through pharmacologic laboratories, a greater degree of watchfulness over the drugs it uses.

CANCER RESEARCH

In respect to the endeavor to remove or to relieve human suffering from disease, "the brotherhood of man" is not an empty phrase; witness the eagerness with which our profession is seconded in its work. For example, the present antituberculosis propaganda is mitigating suffering and minimizing disease from that plague to an enormous extent; moreover, it bids fair to revolutionize human life on the side of sanitation and prophylaxis. This propaganda has assumed its great influence and beneficence largely because of the support given it by men of great affairs and wealth. In the conquest of cancer, on which so many of our colleagues are now engaged, the work which they are doing is being seconded most earnestly and enthusiastically by people of great fortune. The recent bequest of Mr. George Crocker is tinctured with pathos, since both he and his wife before him died of this dreadful disease. His gift, which may total $1,500,000, is for the prosecution of medical and surgical research regarding cancer; the proceeds from the sale of Mr. Crocker's town and country houses, their sites and their rare and beautiful contents, are to be turned over to Columbia University, in New York City, to be used for biologic laboratory research. No part of the gift is to be used for building, and should cancer research in the future become unnecessary this fund is to be used for other medical or surgical investigation. With the possible exception of one made to a London institution for the same purpose, this is the largest single bequest made to this cause, whether by an individual or by a government. Thus is the generosity of wealthy humanitarians coupled with the devotion and heroism of a veritable army, distributed throughout the civilized world, of surgeons, laboratory workers, clinicians, statisticians and nurses.

The cancer problem is a grave one, according to statistics, though, of course, any deduction from statistics in regard to the increase of the disease should be made

with conservatism and accepted with caution, since early vital statistics are notoriously incomplete, and later ones, though more full, not as exact as could be desired. In 1906 Dr. Bainbridge[1] reported figures indicating that cancer was increasing in the United States, the census report showing that from 1850 to 1890 the mortality from this disease increased from 9 to 33.5 to every 100,000 population. In England and Wales the registrar-General's returns showed the following annual ratio of deaths from cancer to each 1,000,000 persons: in 1864, 385; in 1895, 755; in 1900, 828. In France the mortality from cancer and other tumors has risen from an average of 840 per 1,000,000 persons (urban population only) in 1890 to 1,050 in 1898. In Germany, Switzerland, Austria, Norway and Sweden, Holland, Denmark and various other European countries cancer has been increasing; and since Dr. Bainbridge's contribution the Bureau of the Census has found that "the reported mortality from cancer [for 1907] is steadily increasing."

A most important function pertaining to the great centers of cancer research is that of acting as clearing-houses of the offered "cures" of cancer; it is for them to dispose of exploited but ill-founded therapeutic measures, of evanescent agents, such as prove futile when subjected to adequate scientific tests; to probe and, if necessary, to discard untenable theories of the disease. While the cause and origin of cancer remain, as at present, a mystery, it is impossible to predict from what quarter help may come. At present, as Crile[2] has said, "the pre-cancer stage is the preventable or curable stage," and one gleam of hope is seen in the possibility of early recognition of the disease, and of treatment before the incurable stage is reached. This latest gift to the cause warrants renewed confidence that we shall not much longer be obliged to work in the dark so far as the origin of cancer is concerned.

PHYSICIANS AND DIVORCE

The special report[3] of the Bureau of the Census on marriage and divorce between the years 1867 and 1906 contains many interesting data with regard to the social questions involved in these problems. Only the first part has yet been issued; and in this is to be found a discussion of the prevalence of divorce among the different occupations. This comparison is of special interest for the medical profession, because, according to the statistics given, physicians and surgeons are very high in the list of those who obtain divorces themselves or have divorces obtained against them. The report says:

"Actors and professional showmen, according to this ranking, are at the head of the list, reporting more divorces in proportion to their numbers than any other class. In all but one of the nine states considered, moreover, they occupy first place, and in the one exception they rank second. These figures thus confirm the popular impression that divorce is unusually prevalent among actors.

"Musicians and teachers of music seem to rank next to actors in the relative frequency of divorce. In South Dakota they rank first, in West Virginia they share first place with the actors, while in three of the remaining states they are second, in three third, and in one fourth. Commercial travelers apparently rank third."

Immediately after the commercial travelers come telegraph and telephone operators and then—a fact which is rather startling to our professional self-complacency—come physicians and surgeons.

Almost more interesting than the list of those who precede physicians in divorce frequency is the catalogue of those who follow them in this unenviable regard. Sixth on the list are barbers and hair-dressers; seventh, servants and waiters; eighth, bar-tenders; ninth, restaurant and saloon-keepers; tenth, hotel-keepers. Painters are fifteenth on the list; tailors are twenty-first; plumbers, twenty-second; lawyers come only in the twenty-fifth place; while teachers and professors in colleges are in the twenty-ninth place. The fewest divorces are obtained by agricultural laborers. Next to them in infrequency are clergymen, and only a little above them on the list are farmers. The striking difference between various professions is worth noting. The fact that divorces are so much fewer among lawyers than among physicians is rather surprising, though it is only to be expected that clergymen should have an advantage.

Of course, these tables are not complete. Sufficient data have been obtained, however, to permit of interesting study and discussion. There has been a very great general increase in divorce in the last twenty years, and this has apparently affected the physician even more than it has other professional men. It may be that the loss of the intimate personal relationship between the old-fashioned family doctor and his patients in their family circles has weakened the bonds of social restraint. Certainly the respect and affectionate regard of a whole community is not often sacrificed by those who have had the grace to win it. It would be interesting to know whether divorce has not affected the city much more than the country physician, and the specialist more than the general practitioner.

The whole subject is open to discussion and suggestion on many other interesting points. The present census is to be made of much more complete value in this regard both for divorce itself and for the occupation of divorced persons. It will be years before its conclusions can be reached. In the meantime it would seem that one of the duties of medical bodies and medical schools should be to maintain the honor of the profession by drawing the line firmly with regard to members of the profession whose sexual divagations would lessen public confidence in the members of the profession, thus disqualifying them for relations of intimate trust.

1. Bainbridge, W. S.: A Brief Résumé of the World's Recent Cancer Research, New York Med. Rec., Sept. 1, 1906.
2. Crile, George W.: The Cancer Problem, THE JOURNAL A. M. A., 1908, l, 1883.
3. Issued by the Government Printing Office, Washington, 1909.

EDUCATION IN DIETETICS AND HOME ECONOMICS

The importance of a properly balanced and properly cooked diet on the health of nations as well as of individuals needs no emphasis. This is recognized more clearly every day, and, in view of the increasing cost of living, so much discussed just now, the proper utilization of food and prevention of waste is an added consideration. Until the matter of public health is given more attention and a national bureau of health is created with comprehensive powers and functions, probably no national action will be taken on the subject. It is, however, eminently suitable for action by the states and should be systematically taken up by them. The best present agencies for the dissemination of knowledge concerning foods, diet and cooking are the public schools, in a few of which, particularly in the cities, some attention is given to the subject. The principal part of the instruction of the public in this important matter at present, however, seems to be carried on by the agricultural colleges of various states. The New York State College of Agriculture at Cornell University has established a four-year course in home economics, which includes the subjects under consideration; in addition it has established a reading-course for farmers' wives, to be conducted by mail, taking up particularly the phases of the question here discussed. These efforts cannot fail to have a beneficial effect on the public health, but it is to be regretted that this vitally important work is left to the agricultural colleges, which can at best reach only a limited portion of the population. The instruction should be more universally diffused, and should be given more directly by the state governments. Let us hope that the day when such action will be taken is not far distant.

AUTOMOBILE DATA

Many physicians are replying to the questions propounded on advertising page 47 of THE JOURNAL last week, and we appreciate their cooperation. We request any who may have overlooked or neglected the list of questions to reply now. These condensed experiences are desired not only from those who have had much to do with motor-cars, but also from those whose use of them has been limited or who have employed only horses. Typewritten numbered answers on separate paper are preferable, of course, but the blank is provided for the convenience of the busy practitioner. Each one who replies will receive (without the necessity of asking for it) the key containing the names of the machines described or mentioned in the Automobile Number.

International Veterinary Commission on Tuberculosis.—The International Tuberculosis Commission selected by the American Veterinary Medical Association and consisting of practical dairymen, breeders and representatives from the government bureau of animal industry and various veterinary schools in the United States and Canada recently met in Buffalo. Without making specific recommendations the commission agreed that (1) general compulsory tuberculin test and slaughter of cattle is impractical; (2) voluntary testing for owners as a general state policy should be retained; (3) the tuberculin test should be accepted under certain conditions as a basis of suitable control legislation.

Medical News

COLORADO

Doctors' Building in Denver.—The five-story building on Fourteenth and Champa streets, which is now nearing completion, is to be occupied above the first floor, exclusively by physicians and surgeons. Special laboratory and other office conveniences will be provided.

New Buildings for Hospitals.—The overcrowded condition of the Denver County Hospital is to be relieved by the addition of a new wing to cost $90,000.——The main building at the county farm is to have an addition to cost $30,000. A building committee has been appointed with instructions to push the work.

State Hospital Crowded.—The State Hospital for the Insane, Pueblo, with 920 patients, is overcrowded. It was maintained last year at a per capita cost of 41 cents per day. The Colorado Association of County Commissioners has unanimously urged the erection of another state hospital for the insane.

Personal.—Dr. George H. Stover, Denver, has left for Molokai, Hawaii, to study the effect of the *x*-ray on the inmates of the leper colony.——Dr. Hubert Work, Pueblo, has succeeded to the chairmanship of the state republican committee.

FLORIDA

New Sanitarium.—Physicians of Lakeland have organized a stock company to operate a sanitarium to be known as the Lakeland Sanitarium.

County Society Meeting.—At the annual meeting of Bradford County Medical Society, held in Starke, February 1, Dr. Seeber King, Lake Butler, was reelected president, Dr. Thomas D. Gunter, Starke, vice-president, and Dr. Albert H. Freeman, Starke, secretary-treasurer.

New Rules Adopted by Board of Health.—The State Board of Health, at its annual meeting in Jacksonville, February 9 and 10, adopted two important rules: The first provides that no public or private school shall be operated in the state without adequate sanitary toilet facilities, and it shall be the duty of the county board of public instruction in the case of county schools, and the principal in the case of private schools to carry into effect the provisions of the rule. The second rule prohibits the keeping or maintaining a mule or horse in a corporate town or city within 500 feet of any residence or store unless under such conditions as will prevent the breeding or liberating of flies, and it shall be the duty of the city board of health, if such exist, and the mayor of the city if there is no city board of health, to carry this rule into effect.

ILLINOIS

Examination to Be Held.—A civil service examination to fill the vacancy of senior physician at the Cook County Institutions will be held February 28. The position pays a salary of $1,800 with board and lodging.

Medical Branch of Public Library.—The Winnebago County Medical Society has appointed a committee consisting of Drs. Henry M. Starkey, Edward H. Weld and Emil Lofgren, to ascertain the views of the library board regarding the establishment of a medical branch in the Rockford Public Library.

Hospital Overcrowded.—The warden of Cook County Hospital announces that all but one of the wards of the hospital are at present overfilled. The overcrowding of the entire institution amounts to 189, and this is attributed by the warden to the increased population of the city and the growing tendency of individuals who are ill to enter hospitals.

Personal.—Dr. Harry M. Hayes, Peoria, who has been abroad for a year, sails for the United States to-day.——Dr. Charles E. Crawford, Rockford, special inspector of the State Board of Health, is reported to be seriously ill at his home from exposure and overwork during his official duties at the Cherry mine.——Dr. Paul S. Scholes has been elected a member of the medical staff of Graham Hospital, Canton, vice Dr. James M. Nelles, resigned.——Dr. Joseph DeSilva, Rock Island, has been elected secretary of the Illinois Penitentiary Commission.——Dr. Vaclav H. Podstata, superintendent of the Elgin State Hospital, has resigned to take effect March 1.

Chicago

Unlicensed Practitioner Fined.—Mrs. Anna Binder, charged with practicing medicine without a license, is said to have been fined $100 and costs by Municipal Judge Scovell, February 8.

Memorial Service for Dr. Brower.—A memorial service for the late Dr. Daniel L. Brower will be held at the Church of the Epiphany at 10:45 a. m., February 27, the anniversary of Dr. Brower's death.

Fraud Order Issued.—The postoffice department is said to have issued a fraud order, February 17, against the Dr. Hall Electro-Vigor Company of Chicago, manufacturers of an electric belt, for which great healing claims are made.

Examination for Assistant Commissioner.—An examination was begun February 16 at the rooms of the civil service commission to fill the position of assistant commissioner of health, made vacant by the death of Dr. Frank W. Reilly. Three applicants appeared.

Meeting of Medical Historians.—The newly-organized Society of Medical History of Chicago held a meeting in the Auditorium February 19, with Dr. Isaac N. Danforth in the chair. Dr. Howard A. Kelly, Baltimore, delivered the address of the evening on "Hortus Siccus, a Nosegay from Old Times," in which he gave interesting sketches of some of the older American physicians who were interested in botany, and for whom flowers have been named. About seventy were present.

Tuberculosis Is Not Reported.—In a statement issued by the department of health, it is shown that of 326 who died from consumption during January, 176 had never been recorded at the health department while living, and that 84 others were not reported until within a month of death. There is no necessity for this neglect as patients who are unable to employ physicians may go to one of the seven dispensaries of the Chicago Tuberculosis Institute, and in addition the Department of Health furnishes tuberculin free to aid diagnosis, and will instruct physicians how to use it, or will send an expert to assist in the administration.

Work of Tuberculosis Institute.—At the annual meeting of the board of directors of the Chicago Tuberculosis Institute, held February 18, it was reported that 1,225,325 Red Cross Christmas stamps had been sold in Chicago, leaving more than $9,000 available for local use. The following officers and heads of departments were elected: President, Dr. Henry B. Favill; vice-presidents, Drs. Frank Billings and Robert H. Babcock; secretary, Mr. Sherman C. Kingsley; treasurer, Mr. David R. Forgan; head of the sanatorium department, Dr. Theodore B. Sachs; head of the dispensary department, Dr. Ethan A. Gray; and head of the educational department, Dr. Orville W. McMichael.

Sanatorium for Patients of Moderate Means.—Incorporation papers for the Valmora Industrial Sanatorium of New Mexico were filed February 14, by a group of Chicago physicians and business men. Among the directors are Drs. E. Fletcher Ingals, Edwin B. Tuteur, John M. Dodson, Charles L. Mix, and Frederick Tice. No capital stock was named as the organization is not for profit, and is expected to be self-supporting. A fund of $50,000 is to be raised for the purchase of Valmora Sanatorium and for immediate improvements. It is planned to allow the patients to pay their expenses in part in light labor. Poultry farming, truck farming, dairying and bee-keeping will be taught to the patients. At a meeting of the association, February 18, Dr. E. Fletcher Ingals was elected president, and Dr. Edwin B. Tuteur, secretary.

MARYLAND

Asks Appropriation for Library.—A delegation from the Medical and Chirurgical Faculty of Maryland appeared before the senate finance committee, February 10, and asked for an appropriation of $10,000 for its library. For the two previous years $12,500 has been asked and obtained.

Personal.—Drs. Philip B. Housekeeper, North East, and W. T. Morrison, Elkton, have been appointed physicians of Cecil county.——Dr. James M. Corkran, Centerville, has been appointed school commissioner of Queene Anne's county.——Dr. Wright S. Sudler, Highlandtown, has been appointed coroner of the twelfth district, Baltimore county.——Dr. Z. Duvall, Ridout, St. Margarets, and his eleven-year-old daughter are undergoing antirabic treatment in Baltimore.

Society Meeting.—The Anne Arundel County Medical Society, at its meeting in Annapolis, reelected Dr. Thomas H. Brayshaw, Glenburnie, president; and elected Dr. Walton H. Hopkins, Annapolis, vice-president; Dr. Louis B. Henkel, Jr., Annapolis, secretary; Dr. Frank H. Thompson, Annapolis, treasurer; Dr. Jesse O. Purvis, Annapolis, censor; Dr. Charles R. Winterson, Hanover, delegate to the Medical and Chirurgical Faculty of Maryland, and Dr. Samuel H. Anderson, Woodwardsville, alternate.

Baltimore

Portrait Presented.—At a meeting of the Baltimore City Medical Society, February 18, a portrait of the late Dr. William Riley was presented to the Medical and Chirurgical Faculty of Maryland by Dr. William E. Mosely, Jr., a grandson of Dr. Riley, and was accepted for the faculty by its president.

Public Instruction.—The committee on public instruction of the Medical and Chirurgical Faculty of Maryland has arranged a series of seven lectures to be given weekly in Osler Hall. The subjects treated will be pure food and drugs, preventable blindness, sewerage disposal, water supply, infant mortality, and modern methods in mental diseases, etc.

Banquet to Dr. Welch.—A testimonial banquet will be tendered Dr. William H. Welch of Johns Hopkins University, April 2. More than one hundred persons are expected to unite in this tribute to his achievements in medicine and in the expression of admiration and love to this representative American physician. Gold portrait medallions of Professor Welch will be presented to Professor Welch, Johns Hopkins University, and the Medical and Chirurgical Faculty of Maryland.

Personal.—Dr. Ernest J. Becker was elected president of the German Historical Society of Maryland, February 15.——Dr. Thomas S. Cullen has been awarded a gold-headed cane, given by Mr. P. C. Larkin, vice-president of the General Hospital, Toronto, for the best contribution to medical literature made by an ex-house surgeon of that hospital. Dr. Larkin's article was on "Adenomyoma."——Dr. Robinette B. Hayes and T. Marshall West of the staff of the University Hospital will leave in a few days for Fayetteville, N. C., where they will assume charge of the Marsh Hospital.

NEW JERSEY

Expectorators Pay Fine.—Twenty-seven men recently arrested in Newark for violation of the anti-spitting ordinance, pleaded guilty and were fined $10 each in the police court.

Personal.—Dr. William H. Shipps has been elected health officer of Bordentown.——Dr. and Mrs. Edmund L. B. Godfrey, Camden, are spending the winter in Southern California.——Dr. Horace G. Norton, Trenton, has been elected secretary of the State Board of Medical Examiners, vice Dr. Edmund L. B. Godfrey, Camden, resigned on account of continued ill health.——Dr. William H. Murray has been elected a vice-president, and Dr. Benjamin Van D. Hedges, secretary of the Antituberculosis Society of Plainfield and New Plainfield.——Dr. Henry J. F. Wallhauser has been elected president, Dr. Henry A. Towle, vice-president, Dr. William Gauch, secretary, and Dr. Louis A. Koch, treasurer of the medical board of the Newark City Dispensary clinics.——Dr. Charles F. Hill has been appointed a district physician of Newark.——Dr. Charles A. Rosenwasser, Newark, announces that he has established an office in New York City.

Society Meetings.—Orange Mountain Medical Society, at its annual meeting, elected the following officers: President, Dr. Richard P. Francis, Montclair; vice-president, Dr. Richard D. Freeman, South Orange; secretary, Dr. Levi W. Halsey, Montclair; treasurer, Dr. J. Minor Maghee, West Orange (reelected); executive committee, the president, secretary, and Drs. Walter Dodge, Orange, and Arthur W. Bingham, East Orange, and censors, Drs. Mefford Runyon, South Orange, and William H. White, Bloomfield.——At the annual meeting of Gloucester County Medical Society, held in Woodbury, the following officers were elected: President, Dr. Cyrus B. Phillips, Pitman; vice-president, Dr. J. Harris Underwood, Woodbury; secretary-treasurer, Dr. George E. Reading, Woodbury; reporter, Dr. Howard A. Wilson, Woodbury; censors, Drs. James Hunter, Jr., Westville, Luther M. Halsey, Williamstown, and Harry A. Stout, Wenonah; and delegate to the state society, Dr. Charles S. Heritage, Glassboro.

Pediatric Society Organized.—The New Jersey State Pediatric Society was organized in Newark, February 3, with 34 charter members. The objects of the society are to unite the qualified physicians of the state for the scientific study of diseases of infancy and childhood, to promote by its concerted efforts scientific medical research in the department of pediatrics, to foster greater interest in pediatrics among general practitioners, to study the problems of infant mortality and to popularize a knowledge of infant hygiene and the means for the protection of child life. The annual meeting will be held in Atlantic City on the day preceding the meeting of the state medical society. In order that the society may

fulfil its obligations to the profession and indirectly to the public, a series of meetings will be organized in four different parts of the state during the year, when papers designed to instruct the general practitioner in the principles and practice of scientific medicine among children will be presented by well-known authorities on pediatrics. The following officers were elected: President, Dr. Henry L. Coit, Newark; vice-president, Dr. Alexander McAlister, Camden; secretary, Dr. Martin J. Synnott, Montclair; treasurer, Dr. Benjamin Van D. Hedges, Plainfield, and councilors, Drs. J. Finley Bell, Englewood, Thomas N. Gray, East Orange, Burdette P. Craig, Jersey City, Emery Marvel, Atlantic City, and Francis H. Glazebrook, Morristown.

NEW YORK

Honor Dr. Trudeau.—Many men and women of prominence met at Saranac Lake recently to celebrate the silver anniversary of the First Open Air Sanatorium and many others from all parts of the civilized world sent messages of congratulation to Dr. Edward L. Trudeau. Dr. Trudeau made an address in which he gave the history of his pioneer work in the open-air treatment of tuberculosis in America.

Communicable Diseases for 1909.—There were 461 cases of smallpox reported, half as many as in 1908. About 8,000 cases of typhoid fever were reported, of which 3,700 were in New York City. There were 16,186 cases of diphtheria in the city of New York and 4,500 in the rest of the state, practically the same as in the year 1908. In 1908 there were 30,400 cases of scarlet fever reported; in 1909, 22,100. About 50,000 cases of measles were reported, with 1 death to 40 cases. There were 484 cases of cerebrospinal meningitis reported, and 323 deaths. There have been reported 40 cases of ophthalmia neonatorum outside New York City; this is the first year that such a report has been required. The total mortality from epidemic diseases was 9,025, or 6.5 per cent. of the deaths from all causes. There were 7,864 deaths from diarrhea and enteritis under two years of age, 1,247 less than in 1908. The childhood mortality was a little under that of 1908. Pulmonary tuberculosis caused 13,948 deaths. During the last twenty-five years, during which the population has increased from 5,600,000 to 8,600,000, there have been 330,000 deaths, a yearly average of 13,200. For the entire period there have been about 180 deaths per 100,000 annually; in 1909, 160. Pneumonia caused 9,400 deaths, 773 more than in 1908. From other diseases of the pulmonary organs there were 11,381 deaths. Cancer caused 7,034 deaths. Violence caused 9,199 deaths. The total mortality from all causes was 139,783, a death rate for the year of 16.1 per 1,000. There were 200,865 births reported and about 80,000 marriages.

Is Cancer Cure Near?—A hope of greatly ameliorating the condition of cancer patients and perhaps of curing many is held out by the report of Dr. Harvey J. Gaylord, director of the Cancer Laboratory of the State Department of Health at Buffalo. This hope is based on inoculation experiments, mainly with rats, with the cancer virus. The report states that where resistance of the animal is not sufficiently awakened by one inoculation of the tumor this resistance can be increased by repeated doses, and in a considerable proportion of cases immunity can be raised to a point that will bring about a cure. The report urges on the legislature that the time has come when experimentation should be begun on human beings. To do this it is necessary that a number of patients shall be maintained for the purpose. It is impossible to undertake work of this kind unless a sufficient number of patients can be placed under observation, to make the figures sufficiently conclusive to corroborate any conclusions which may be reached. A fund sufficient to maintain ten such patients is the least amount that can be of value if this work is to be undertaken. Other investigations of far-reaching importance were conducted by the laboratory in regard to the prevalence of many forms of cancer in fish. It was a very remarkable coincidence that the area of the United States which includes the greatest concentration of human cancer cases, is almost identical with the area through which the various members of the trout family, which are frequently affected by cancer of the thyroid, is distributed. This suggests the theory of a possible distribution of cancer through water. Statistics show that cancer continues to increase. The increase in the United States has been from 9 per 100,000 population in 1850 to 43 per 100,000 in 1900, an average of 65 in 1901, and of 70 in 1906. In the year 1909 there were 7,034 cases of cancer reported in New York State.

The Work Against Tuberculosis in Buffalo.—The report of Dr. Francis E. Fronczak, acting health commissioner of Buffalo, received February 21 by the State Charities Aid Association, covers a period of three months from Oct. 1 to Dec. 31, 1909. During this period, 347 individual houses were inspected, 290 were investigated after removals, and 117 after deaths of persons from tuberculosis. During that time, 159 disinfections and 153 fumigations were made to prevent the spread of the disease. During 1907, only 540 living patients with tuberculosis were registered; in 1908, after the law drafted by the State Charities Aid Association, came into effect, there were 740 living patients reported and in 1909, 1,183 living were reported. Of these 1,183 cases, 452 were reported since the appointment of inspectors, Oct. 1, 1909. During the year there were 523 deaths from tuberculosis as compared with 535 in the previous year. Already more than two living patients with tuberculosis are reported for every death, whereas two years ago the deaths greatly exceeded the reported living patients. The following brief summary is presented to show what Buffalo has done to control tuberculosis:

1. All cases must be reported to the Health Department within 24 hours of their discovery on blanks furnished by the department.
2. The department furnishes each patient, free of cost, a complete "hygienic outfit" consisting of sputum cups and cup holder, paper napkins and water proof bags, and replaces same as often as necessary. Other assistance is also provided, as indicated.
3. All deaths or removals must be recorded within 24 hours.
4. Card indexes are kept of all cases, with their history.
5. The department employs two inspectors to visit homes where death or removal has occurred, to instruct, to enforce disinfection and renovation.
6. No house or premises may be reoccupied until proper disinfection and renovation have been done.
7. The inspectors visit patients who have no physician, to give instructions and to furnish patients with circulars of information.
8. The Buffalo Association for the Relief and Control of Tuberculosis conducts the following: (a) The Day Camp; (b) tuberculosis classes; (c) tuberculosis dispensary; (d) the district nurses; (e) educational work.
9. The Charity Organization Society is furnishing food and raiment to many needy tuberculous families.
10. The city is about to erect a hospital for the care and treatment of incipient cases. This will be at Perrysburg, N. Y., 40 miles from the city.
11. Advanced cases are accommodated at the Erie County Hospital.
12. The bacteriologic examination of the sputum is available to any citizen without charge.
13. Ordinance regulations:
(a) Spitting in public places is prohibited.
(b) Meat sold in Buffalo must bear the approval of the federal or city inspectors.
(c) Ordinances regarding ventilation, light and general sanitary conditions are strictly enforced.
14. Outdoor life is encouraged. Buffalo has a large park area, and at present 7 playgrounds; 3 additional playgrounds will be added next summer.
15. Personal cleanliness is encouraged. We have two free public bath houses, both of which have laundries attached, situated in the densly populated parts of the city. A free bathing beach is open during the summer.
16. Educational work.

New York City

Alumni Dine.—The annual dinner of the Association of the Alumni of Mount Sinai Hospital, held at the Hotel Knickerbocker, February 26, was in commemoration of the fiftieth anniversary of the connection of Dr. Abraham Jacobi with the hospital.

Off for Convalescent Home.—The first lot of 27 children, selected from the schools of the city in response to the report that a large number of school children were physically unfit to make use of the instruction offered, were sent to the Convalescent Home of the Children's Aid Society near Chappaqua, N. Y. There were selected 209 children from six schools as in need of such care as the home provides, and as soon as the children recently sent are restored to health, their places will be taken by others on the waiting list.

Early Still a Leper.—The committee of three doctors and two lawyers appointed by the Society of Medical Jurisprudence last December to investigate the case of John R. Early, the alleged leper, made a report which was submitted at a meeting of the society at the Academy of Medicine February 14. The first report of the committee was confirmed, and Early was pronounced a probable leper. Dr. L. Duncan Bulkley, who has insisted all along that the case was not one of leprosy, asked for a further investigation. The report of the committee was accepted without any judgment on the case being expressed by the society as a whole.

New Harbor Hospital.—By March 1 Health Officer Doty will have completed and prepared for occupancy a hospital and four pavilions for the isolation and treatment of measles, scarlet fever, diphtheria and chicken pox. Cases of these diseases have hitherto been allowed to go on ship to the

pier and there were turned over to the board of health of the city. It was thought that the detention of these cases at quarantine would give better protection to the public. This hospital with the four pavilions will accommodate 300 patients and the total cost has been something less than $230 a bed, which is said to be much less than the usual cost of such institutions.

Gifts to Charity.—The will of Charlotte A. Vanden Heuval gives $5,000 to each of the following institutions: The Association for Improving the Condition of the Poor, Daisy Fields Home and Hospital for Crippled Children and Messiah Home for Little Children.——The will of Rosalie King gives $1,000 to Mount Sinai Hospital and the same amount to the Home for the Aged and Infirm Hebrews and Montefiore Home. Beth Israel Hospital and the United Hebrew Charities each receive $500.——The proceeds of the German Charity Ball amounted to $10,765, of which sum $10,600 will be distributed among various hospitals and societies.——The Hospital Saturday and Sunday Association announced at their thirty-first annual meeting that the general collection was larger this year than last, though the exact amount could not as yet be announced; last year it amounted to more than $100,000.

NORTH CAROLINA

Personal.—Dr. James G. Anderson, Asheville, has been appointed director of the State Hospital for the Insane, Goldsboro.——Dr. Slocomb R. Edwards, Siler City, has been appointed medical superintendent of the Presbyterian Eye, Ear, Nose and Throat Hospital, Baltimore.

Antituberculosis Program.—The North Carolina Association for the Prevention of Tuberculosis is to meet in Greensboro, March 15 and 16. Men from other sections of the state have been selected to speak on various phases of tuberculosis, and officers of the national association and delegates from other states will be present and speak on the national crusade against the disease.

Society Adopts Resolutions.—Guilford County Medical Society, at a recent meeting in Greensboro, adopted resolutions condemning the secret method the police officers of that city have employed to secure evidence against physicians alleged to have violated the state prohibition laws. The society also approved the resolutions adopted by the state medical society condemning the violations of the provisions of the prohibition laws, and urged the examining board to revoke the licenses of all convicted physicians. The society adopted resolutions forbidding any Greensboro druggist from exhibiting to any police or other city official any physician's prescription without first securing from the physician or patient an order permitting such examination.

OREGON

Hospital News.—The Dalles Hospital has recently been enlarged and remodeled and now has a capacity of 75 beds.——The Carlsbad Hot Springs Sanatorium, North Powder, is now under active construction. The buildings, which will cost $250,000, are expected to be ready for occupancy in August.

Dispensary Staff.—The Portland Free Dispensary opened January 12, with the following staff: Drs. Kenneth A. J. Mackenzie, Otis B. Wight, George S. Whiteside, Alvin W. Baird, N. Wiley Jones, Edna D. Timms, Otis F. Akin, Frank M. Taylor, C. Gertrude French, Clarence J. McCusker, George F. Koehler, Donald Jessup and Norman Pease.

Willamette Valley Physicians Meet.—The Central Willamette Valley Medical Association, composed of physicians of Linn, Benton and Lincoln counties, at its recent meeting in Albany, elected Dr. William H. Dale, Harrisburg, president; Dr. Joel C. Booth, Lebanon, vice-president; Dr. Henry J. Kavanagh, Albany, secretary; Dr. Matthew H. Ellis, Albany, treasurer, and Dr. Albert G. Prill, Scio, delegate to the state society.

Suit Against Physicians Fails.—The damage suit of Floyd D. Moore against Drs. Francis G. Swedenburg, Ashland, and Joseph S. Herndon, Sacramento, Cal., in which the plaintiff claimed $17,000 damages on the allegation that the effects of an operation performed on him had been injurious, that he had been neglected in the hospital, and had been given an overdose of a poison by a nurse, collapsed before it reached the jury on account of lack of evidence.

Medical Reserve Corps for Oregon.—A general order has been issued creating a medical reserve corps of twelve surgeons, graduates of reputable medical schools, named by the governor on the advice and recommendation of the general staff, and receiving commissions as first lieutenants only after passing examination. Members of the corps will be appointed at stations where one or more companies of the national guard are located. Their work will be examination of applicants for enlistment and such other duties as pertain to surgeons of the state militia.

Personal.—Ernest H. Parker, Portland, who has been critically ill with pneumonia at Avalon, Cal., is reported to be improving.——Dr. Robert J. Conroy, Medford, has been appointed local surgeon for the Pacific and Eastern Railroad.——Dr. Calvin S. White, Portland, has been elected secretary of the State Board of Health, vice Dr. Robert C. Yenney, Portland, resigned.——Dr. Harvey J. Clements, pathologist of the Oregon State Insane Asylum, Salem, has been elected medical director of the State Tuberculosis Sanatorium, which is located in the old Deaf Mute School building south of the city. The state tuberculosis commission includes Drs. Willis B. Morse, Salem, and Calvin S. White, Portland.

PENNSYLVANIA

Society Will Publish Monthly Magazine.—At the February meeting of the Bucks County Medical Society, held in Doylestown, it was decided to publish a monthly bulletin for the benefit of the members. A committee of four was appointed to formulate plans for the publication of this bulletin.

Medical Society Elections.—At the annual meeting of the staff of the Pittsburg and Lake Erie Railroad, held February 10, the following officers were elected: Dr. John D. Milligan, Pittsburg, president; Drs. Jefferson H. Wilson, Beaver, and John A. Barr, McKee's Rocks, vice-presidents, and Dr. Edward M. Iland, Coraopolis, secretary-treasurer.——At the annual meeting of the Pottsville Medical Club, February 10, the following officers were elected: Dr. J. Harry Swaving, president; Drs. George R. S. Corson and Merchant C. Householder, vice-presidents; Dr. John J. Moore, secretary-treasurer, and Drs. George H. Boone, Patrick H. O'Hara, and Joseph G. Kramer, censors.

Philadelphia

Gifts to Colleges.—The Philadelphia College of Physicians has been given $75,000 by an anonymous donor through Dr. S. Weir Mitchell.——A gift of $100,000 has been received by the University of Pennsylvania to endow a chair in the medical department.

Personal.—Dr. S. Weir Mitchell celebrated his eightieth birthday anniversary February 15.——As a token of esteem and admiration to their retiring chief, the medical staff of Henry Phipps Institute gave a testimonial dinner in honor of Dr. Lawrence P. Flick, February 1, presenting him with a massive silver loving-cup. The presentation speech was made by Dr. Daniel J. McCarthy.——Dr. Joseph Price, who has been seriously ill at his summer home in Whitford with septicemia, is reported to be improving.

Medical Department of Library.—It is announced that there will be added to the free library of Philadelphia an additional alcove for the exclusive use of books, pamphlets and papers on the practice of medicine and kindred branches. This action was the outgrowth of a consultation between the library authorities and a committee of the Philadelphia County Medical Society, composed of Dr. James M. Anders, chairman, and Drs. Edmund E. Montgomery, Charles A. E. Codman, M. Howard Fussell, Albert M. Eaton, A. Bern Hirsh, Herman B. Allyn and Henry Leffmann.

RHODE ISLAND

Money for Hospitals.—By the will of the late Mrs. Eveline A. Cozzens, a colored woman of Providence, $3,000 is bequeathed to the Rhode Island Hospital.——By the will of the late Dr. Robert Millar, Providence, $8,000 is devised for the endowment of a permanent free bed in the Rhode Island Hospital.

Personal.—Dr. George H. Kenyon, Providence, surgeon-general of the Rhode Island National Guard, will, it is believed, be obliged to resign on account of continued ill health.——Dr. Alanson D. Rose, Manton, has been seriously ill with septicemia, due to an operation wound.——Dr. George A. Matteson has been appointed visiting physician to the Rhode Island Hospital, vice Dr. Donald Churchill, deceased.

The Work Against Tuberculosis.—Through the combined activities of the Rhode Island State Board of Health and the Rhode Island Antituberculosis Association arrangements are being made to send the state tuberculosis exhibit to every town and city in the state not yet reached in this campaign.——The trustees of the State Sanatorium for Tuberculosis,

Wallum Lake, recommend the building of an infirmary and entertainment hall, better quarters for employees, and that the buildings be put in proper repair.

Society Meetings.—At the annual meeting of the Washington County Medical Society, held in Westerly, the following officers were elected: President, Dr. Frank C. Pagan, Westerly; vice-presidents, Drs. Edward E. Kenyon, Usquepaugh, and John L. May, Westerly; and secretary-treasurer, Dr. J. Howard Morgan, Westerly.——At the annual meeting and banquet of Kent County Medical Society, held in Arctic Centre, Dr. John A. Mack, Crompton, was elected president; Dr. William S. Reoch, Phenix, vice-president; Dr. Thomas F. Darby, River Point, secretary; Dr. Frank D. Smith, Washington, treasurer; Dr. Warren E. Page, Phenix, delegate to the state medical society; Dr. Ira D. Hasbrouch, Washington, councilor; and Dr. Fenwick D. Taggart, East Greenwich, censor.

State Society Appoints Delegates.—At the quarterly meeting of the Rhode Island Medical Society, held in Providence, Drs. William J. McCaw and William McDonald, Jr., Providence, were appointed delegates to the United States Pharmacopeial Convention, Washington; Drs. William B. Cutts and V. Lee Fitzgerald, Providence, to the Maine Medical Society; Drs. Harlan P. Abbott and G. Edward Buxton, Providence, to the New Hampshire Medical Society; Drs. George B. Haines, Valley Falls, and Nelson R. Hall, Warren, to the Vermont Medical Society; Drs. Charles H. Leonard and George T. Spicer, Providence, to the Connecticut Medical Society; Drs. Robert F. Noyes, Providence, and Alexander C. Sanford, Newport, to the Massachusetts Medical Society; Drs. Henry A. Jones, Howard, and D. O. Kidd to the Medical Society of the State of New York, and Drs. John W. Keefe and John T. Farrell, Providence, to the Medical Society of the State of New Jersey.

GENERAL NEWS AND COMMENT

Personal.—Dr. James T. Wayson, Hololulu, for several years a member of the board of health of that city, has retired to become superintendent of the Kilihi Hospital. Dr. William C. Hobdy, P. H. and M.-H. Service, has succeeded Dr. Wayson as a member of the board of health.

Hygiene Congress Postponed.—By joint resolution, February 3, Congress has postponed until some time in 1911 or 1912 the International Congress of Hygiene and Demography which was to have been held this year. The President is to designate where the congress shall be held; cities, therefore, may apply for the privilege of receiving it.

Mexican Society Meets.—The International Medical Association of Mexico, which held its annual meeting in Aguascalientes January 25-27, elected the following officers: Dr. C. E. Husk, Santa Barbara, president; Dr. Frederick W. Taube, Zacatecas, vice-president; Dr. J. S. Steele, Monterey, secretary-treasurer; Drs. Robert Griewe, Santa Barbara, and H. D. Eaton, Chihuahua, censors, and Drs. R. D. Robinson and W. R. Jamieson, Torreon, editors of the annual (reelected). The association will meet in Juarez next year.

Tri-State Association Meeting.—At the twelfth annual session of the Tri-State Medical Association of the Carolinas and Virginia, held in Richmond, Va., February 15-17, the following officers were elected: President, Dr. Joseph A. White, Richmond, Va.; vice-presidents, Drs. Joseph Graham, Durham, N. C.; Thomas P. Whaley, Charleston, S. C., and Samuel Lile, Lynchburg, Va.; secretary-treasurer, Dr. J. Howell Way, Waynesville, N. C. (reelected), and executive council, Drs. Harry T. Marshall, Charlottesville, Va.; Carl V. Reynolds, Asheville, N. C.; Harvey E. McConnell, Chester, S. C.; James S. Irvin, Danville, Va.; Andrew J. Crowell, Charlotte, N. C.; Archibald E. Baker, Charleston, S. C.; Robert C. Bryan, Richmond, Va.; Henry T. Bahnson, Winston-Salem, N. C., and Rolfe E. Hughes, Laurens, S. C. The following committee on cancer education was appointed: Virginia, Drs. Southgate Leigh, Norfolk, Stephen Harnsberger, Catlett, and J. Shelton Horsley, Richmond; North Carolina, Drs. Hubert A. Royster, Raleigh, James E. Stokes, Salisbury, and W. E. Ragland; and South Carolina, Drs. LeGrand Guerry, Columbia, Charles F. Williams, Columbia, and Charlton E. Gamble, Turbeville. The next meeting of the association will be held in Raleigh, N. C., in February, 1911.

Society to Prevent Infant Mortality.—The first meeting of the executive committee and board of directors of the recently organized Association for the Study and Prevention of Infant Mortality was held at the building of the Medical and Chirurgical Faculty of Maryland, February 9. The necessity of the prompt and accurate registration of births was recognized as the fundamental element in the campaign. Dr. John S. Fulton was made chairman of a committee to enlist the cooperation of state and municipal boards of health throughout the country, to promote the enforcement of laws in communities where such laws are on the statute book, and urge the enactment of the necessary legislation in other localities. A committee composed of Drs. Mary Sherwood, Baltimore, Miss M. Adelaide Nutting, New York City, and Mr. Homer Folks, secretary of the New York State Charities Aid Association, was appointed to outline plans for nurses' associations, social workers, milk stations and other similar organizations. Drs. Lillian Welsh, Baltimore, and Joseph S. Neff, Philadelphia, were made chairmen of committees to map out plans for the membership campaign. The association is national in scope, and the plans embrace a campaign of study and prevention analogous to that of the National Association for the Study and Prevention of Tuberculosis. Its work is divided into the following sections: state, federal and municipal prevention, presided over by Dr. William H. Welch, Baltimore; medical prevention, presided over by Dr. L. Emmett Holt, New York City; educational prevention, presided over by Dr. Helen C. Putnam, Providence, R. I.; and philanthropic prevention, presided over by Hastings H. Hart, New York City.

CANADA

Personal.—Dr. Helen MacMurchy, Toronto, has been appointed by the Toronto Board of Education to examine about 100 mentally defective children attending the public schools of Toronto.——Dr. J. J. Guérin, Montreal, has been elected mayor of that city. Dr. Emmanuel P. Lachapelle, Montreal, chairman of the Quebec Board of Health, has been elected a member of the new board of control of that city.——Drs. Rodolphe Boulet and Louis de L. Harwood, Montreal, have returned from a trip to Cuba and Mexico.

Rabies in Ontario.—Several members of the Toronto Academy of Medicine, headed by the president, Dr. Alexander McPhedran, recently waited on the Ontario government and strongly advocated the establishment in Ontario of a Pasteur Institute, in view of the widespread outbreak through western Ontario of rabies, as about fifty persons in the last three years who have been bitten by dogs have had to go to New York for treatment. It is understood that the government will make a preliminary grant of $1,000 for the purpose.

New Legislation.—The Ontario osteopaths have introduced a bill before the legislature to secure the provincial incorporation of a college of osteopathy in either Toronto or Hamilton. The Ontario Medical Council and the Toronto Academy of Medicine will oppose the measure.——To abolish compulsory vaccination in Ontario is the aim of a bill before the Ontario legislature. The bill seeks repeal of the present act and to leave to each person to decide whether he will or will not be vaccinated.——The Ontario Medical Council is discussing the proposed amendments to the Ontario Medical Act with the Ontario government. Among the profession there is a great deal of discontent over university representation. The council wants the power to deal immediately with all cases of unprofessional conduct arising among members of the college which may be considered in the light of disgraceful conduct in a professional sense, instead of as now waiting until the annual meeting in July.——One medical member of the Ontario legislature has a bill before that body which will seek to prevent the propagation of criminals, idiots and the like. The measure is based on the Indiana act.

Hospital Notes.—The new Lady Grey Hospital, Ottawa, was opened February 11, through the efforts of the Ottawa Anti-Tuberculosis Society.——Dr. T. J. W. Burgess, superintendent of the Protestant Hospital for the Insane, Verdun, Quebec, says there is great need for a society to watch over patients discharged from that institution. During the past year there were 197 admissions and the total number of patients was 783, the largest in the history of the institution.——A new wing is to be built to the Toronto Isolation Hospital so that there will be better facilities in that city for the treatment of infectious diseases. The estimated cost is $102,000, and it will accommodate 100 additional patients.——The Montreal Emergency Hospital for typhoid fever patients has treated 119 patients since it was opened a few weeks ago. Of the cases 89 per cent. were found to be of a virulent type.——According to the eighth annual report of the Vancouver General Hospital, there were treated in that institution during the past year 3,842 patients, as compared with 2,554 in 1908.——The Toronto General Hospital treated during the year ending Sept. 30, 1909, 5,104 patients. There were 302 births in the institution. The cost per adult patient per day was $1.37.——Mr. J. C. Eaton, Toronto, has donated a quarter million dollars to build the surgical wing of the new Toronto General Hospital, in commemoration of his father, the late Mr. Timothy Eaton.——The Toronto City Council favors an

additional grant of $200,000 to the Toronto General Hospital, and the matter will be submitted to the rate-payers at an early date.

FOREIGN

Deaths Abroad.—Among recent deaths of English physicians which have not been mentioned elsewhere are those of Mr. William Warrick Wagstaffe, F.R.C.S., Eng., an anatomist of more than ordinary ability, who died in Sevenoaks, Kent, January 22, aged 67, from paralysis; Mr. William Ilbert Hancock, F.R.C.S., Eng., assistant surgeon to the Royal London Ophthalmic Hospital, and formerly dean of the staff of the Central London Ophthalmic Hospital, who died January 26 from pulmonary embolism, five days after an operation for appendicitis, aged 36; Surgeon General Charles Dodgson Maddon, D.S.O., honorary surgeon to the king, who was graduated from Trinity College, Dublin, entered the army in 1854, and died in Leonards-on-Sea, aged 76; and Lieutent-Colonel Campbell Mellis Douglas, brigade surgeon R.A.M.C., retired, who was awarded the Victoria Cross in 1867, and died Dec. 31, 1909, aged 69.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, Feb. 2, 1910.

Personals

Privy councillor Schmidtmann has been elected president of the German Society of Public Health (*Deutsche Gesellschaft für öffentliche Gesundheit*) in place of the deceased Wehmer. The society has also elected the city councillor Marggraf as an honorary member in recognition of his services in the interest of public health in Berlin, particularly by the establishment of sewage farms.——Privy councillor Bäumler of Freiburg was elected an honorary member of the balneological society.—— The philosophical faculty of Heidelberg has conferred the honorary title of doctor on Dr. Höffler of Bad Tölz on account of his excellent work in the field of medical history.——Professor Strauss, for many years an assistant of Senator, has been chosen as the successor of Prof. J. Lazarus as director of the medical section of the Jewish hospital.——Privy councillor Steffen, a well known pediatrician, died January 7, at the age of 84.

Tuberculosis in Berlin

At the last meeting of the society for social medicine Professor Kayserling, who is a well known worker in the field of tuberculosis hygiene, delivered an address on the repression of tuberculosis in Berlin and made some suggestions which are worthy of note. In the campaign against tuberculosis experience shows that two ends are to be sought: the protection of the healthy from infection and the treatment of tuberculosis patients. From his observations, dwellings of one room are the worst foci for tuberculosis but the danger of infection of healthy individuals in other dwellings is a matter calling for especial care by the sanitary authorities. The housing problem is therefore an important matter with reference to the protection of healthy people from infection. The disinfection of rooms and the protection of healthy people living in them is constantly a matter of care for the hygienic stations and for the national insurance societies. The best measure against the disease, namely, the isolation of all tuberculous patients who expel tubercle bacilli, is unfortunately not practicable. Healthy children must be protected by sending them to the forest convalescent stations and outdoor schools. The effort should be made, as in France, to place children in families in the country. Moreover the matter of disinfection must be improved. In the last year disinfection was carried out in only 2,100 cases of tuberculosis in Berlin, while 3,900 deaths from the disease were recorded. Although some of the tuberculous in whose cases disinfection was not undertaken died in the hospitals, yet these figures show that disinfection needs more careful attention. This measure should be applied whenever a patient capable of communicating the disease is transferred to a hospital or changes his residence. Disinfection must be free of charge, which has hitherto not been the case with tuberculosis. Hospitals for advanced tuberculosis should be built which will be acceptable to the patients and which are so arranged that they do not endanger the nursing force. A further urgent need is the provision of a sanitary working environment for infectious tuberculous patients who are able to work.

School Nurses

The experience of school physicians that very many ailing children remain without medical treatment in spite of repeated warning from the school physician, has led to the installation of school nurses in several German cities, as is the case in some other countries, especially in America. The functions of the school nurses in Charlottenburg are as follows: They are to visit the homes of the parents of such school children as receive no medical treatment in spite of repeated warnings, and to endeavor to induce the parents to follow the advice of the school physicians. They are expected to learn whether there are any reasons which hinder the parents from adopting the requisite steps to secure the health of their children. If the parents cannot go with the child to the physician, the school nurse is to relieve them of this task. With the permission of the parents the nurse is to take the child to the physician who it has been agreed shall treat it, receive the instruction of the physician, return with the child to its home and instruct the parents in regard to the treatment. If the nurse learns that the parents have not the means to purchase the bandages, medicines, etc., ordered she shall endeavor to provide them with the help of the city physician. If a child in the school is noticeable for its uncleanliness or insufficient clothing or poor nutrition, the nurse is to inform herself regarding the economic status of the parents and the housing and nutritive condition of the child and make appropriate suggestions for the relief of the situation. In some circumstances she is to free the children from vermin. If the house or the linen, etc., are the habitat of the vermin, she is to provide for their cleansing through the municipal disinfection institute. Altogether the field of labor of the school nurse is chiefly in the home of the pupils; only exceptionally she has anything to do in the school itself. She receives instruction only from the school physician and does not work independently but only under his advice and oversight. She must not undertake to give advice regarding the treatment of diseases or of patients. Opinions which have so far been expressed by school physicians regarding the arrangement, which has now been in vogue for two years, are favorable.

Society Jubilees

Berlin is to have a jubilee year in 1910 as a whole series of memorial celebrations will occur in this year, chief of which is the centennial of the Berlin university. This series of memorials was inaugurated by the centennial celebration of the founding of the Hufeland society and the society for natural and medical sciences. February 1 a brilliant meeting of the first named society took place. The president of the society, Prof. v Hansemann, gave a historical review of the development of the society and combined with it a eulogy of its founder. In 1810 Hufeland founded the society as the "medico-chirurgical society" after the plan of Goethe's *Freitagsgesellschaft* of which he was a member. On the fiftieth anniversary of his doctorate in 1833, the society received the name of the *Hufelandische Gesellschaft*. The members met at Hufeland's house, heard lectures, and reported clinical cases, epidemics, etc. The thirtieth year of the nineteenth century marked the culmination of the society. The troubles of 1848 did not fail to have their effect upon it; its sixtieth and seventieth year brought new difficulties. By union with other medical societies (finally with the *Demonstrationsgesellschaft*) new blood was infused into it. Now it has a splendid membership (348). Prof. v. Hansemann lauded Hufeland as a model for the medical profession and for medical science. He was distinguished by his philanthropy and helpfulness toward the poor and humble. Professor Strauss spoke of Hufeland as a theorist and as a practical physician: Hufeland chose for his motto: The physician should be the servant and not the master of Nature. This gifted man was already an advocate of the hardening process and of baths and the hydropathic treatment of inebriety. It is worthy of notice to-day, in the era of specialties, that Hufeland advocated the instruction of all-around physicians (*Vollärzte*) not of physicians for a part of the body only. The final reason for his popularity lies in the remarkable force of his medical personality, and even to-day Hufeland may serve as a model for every physician in the way in which he followed his calling. Finally Professor Brieger, the president of the balneologic society, which developed from the Hufeland society, spoke of the importance of Hufeland for balneology. On the occasion of the jubilee the Hufeland society elected the following as honorary members: Robert Koch, Erb (Heidelberg), Lord Lister (London), Franz König and W. A. Freund (Berlin). The following were elected as corresponding members: v. Eiselsberg (Vienna), F. v. Korányi (Budapest), Bouchard (Paris), Kocher (Bern), Pawlow (Petersburg), Homén (Helsingfors), Hansen (Bergen), Retzius (Stockholm), Morpurgo (Turin) and Welch (America). A few days after the Hufeland society the society for natural and medical

sciences (*Natur- und Heilkunde*) celebrated its centennial. This society, which is more strictly of a professional and private character than the Hufeland society, was founded 100 years ago by 15 distinguished physicians and has during its existence counted as members some of the most noted of the Berlin profession. At present its president is Prof. Waldeyer.

Suicide in Prussia During 1907

According to official statistics for the year 1907, 7,643 persons, 5,844 men and 1,799 women, committed suicide. The number of suicides increases from year to year. In 1878 it was only 4,689; in 1888, 5,393; in 1898, 6,361. In thirty years it has risen from 17.7 to 20.2 per 100,000 living. There are each year nearly four times as many among men as women. More than a fourth of the suicides are undoubtedly caused by mental disease, and of the other suicides a large number are dependent on psychic causes. Insanity appears as the cause much more frequently among women than among men. Two-thirds of the men and half the women hang themselves, one-third of the women, but only one-eighth of the men drown themselves. With increasing age the tendency to suicide increases. Among the men the largest number of suicides occurred in July, among the women in May and the smallest in both sexes in February. The frequency at different times of the day is: forenoon, afternoon, night, evening, midday, and shortly after sunrise. As in regard to the months, the examination of the hour shows that the higher temperature is undoubtedly favorable to suicide. As to the day of the week, social reasons seem to be distinctly active. The day most frequently chosen is Monday, probably because it follows the revelry of Sunday. The fewest suicides occur on Saturday, ostensibly because the wages are paid on that day and Sunday is to follow. How far these considerations are really the effective ones must be determined by the observation of more cases.

The Physiologic Importance of Colloids.—An interesting paper on colloids by Henry Leffmann appears in the *Proceedings of the Pathological Society of Philadelphia*, December, 1909. The nature of colloids was first defined by Graham, who divided bodies according to their power to pass through animal membranes into crystalloids which pass readily and colloids which pass with difficulty or not at all. The colloids are mostly animal substances but inorganic substances are capable of existing in the colloid as well as in the crystalloid state. In the colloid condition substances otherwise insoluble in water may exist in a state of very fine subdivision in suspension in water, exhibiting most of the properties of a solution. A distinction must be made between the extremely finely divided particles of gold or silver in the so-called colloidal state and the colloid condition of protein substances, starch, silicic acid, etc. The former assume a different state of aggregation and precipitate on the introduction of an easily ionizable substance, while the latter, although capable of assuming ionic charges, are not affected in the same way as to aggregation. Colloids having an extremely extended surface in consequence of their fine division readily attach themselves to other substances showing the phenomena of adsorption. In physiologic processes, a change from colloid to crystalloid and *vice versa* is frequently effected. This was at one time thought to be due to a change in size of the molecule but recent investigations have shown that the conversion of a protein into a sodium salt suffices to make it dialyzable so that it does not appear that a simplification of the molecule is necessary. The properties of colloids make possible many of the activities of cells that would be otherwise inexplicable. The conversion of soluble carbohydrates into colloid forms (starch, glycogen) enables them to be retained in the cell until needed in other parts of the economy. The colloid character of enzymes also allows them to be stored in cells until their action is needed and makes possible the occurrence of chemical actions of different character in different parts of the cells. Thus an oxidizing ferment in its colloid form may be held in one part of a cell while a deoxidizing enzyme acts in another part of the same cell. The phenomena of adsorption make it possible for the cell to retain the special nutriment suited to it and possibly account for the power of the cells to modify the composition of lymph and blood serum in which they float or with which they come in contact.

Pharmacology

PHYSIOLOGIC STANDARDIZATION

Report of the Council on Pharmacy and Chemistry

The Council has adopted the rule that it considers the phrase "physiologically standardized" or "assayed" as misleading, unless the standard and method are published in sufficient detail to permit of their control by independent investigators. The Council has further voted that this ruling and the reasons therefore, be published. In accordance with this order the following explanatory note is given.

W. A. PUCKNER, Secretary.

The chief credit for the practical introduction of "physiologic standardization" belongs to American pharmaceutical manufacturing houses, which deserve the highest commendation for voluntarily subjecting themselves to great expense and trouble in developing suitable methods of physiologic assay. Without wishing to detract from the credit which justly is due them, the Council nevertheless, feels constrained to call attention to the abuses to which the phrase "physiologically standardized" is liable. To the physician the phrase means that the preparations to which it is applied are made to conform to a definite standard. This obvious meaning, however, is entirely misleading, when it is remembered that each firm has its own standard and that that standard is kept secret, a practice which obtains almost universally. There is little if any more justification in calling such a preparation "standardized" than there would be in calling a diphtheria antitoxin "standardized" without stating its strength. The government would promptly proceed against the manufacturers of such an antitoxin. With the drugs, however, this would be more difficult, since there are no official methods of assay. Every manufacturer can therefore feel at liberty to employ any method of assay which suits his purpose or fancy. Indeed, he might even omit the performance of any test, without serious fear of discovery.

It is scarcely necessary to point out to what confusion and abuses this may lead. A dishonest or careless manufacturer may set himself a very low "standard." Another, more exacting, may set his standard many times as high—yet the products of both would, under the present loose meaning of the term, be called "physiologically standardized," and supposedly, therefore, be of uniform strength. The danger to the public is obvious.

The comparative experiments of Edmunds and Hale on "The Physiologic Standardization of Digitalis"[1] demonstrates that the fear of want of uniformity, at least, is not ungrounded. Other investigations point in the same direction. The remedy for this condition lies in the establishment of official methods of assay; in their absence, however, a great deal would be accomplished if manufacturers who use the phrase "physiologically standardized" would define its exact meaning, so that their claims can be controlled, and their preparations compared with others for which the same claim is made. This is necessary for the protection of the public, and entails no serious sacrifice on the part of the manufacturers. The information which is demanded may once have been a valuable trade secret but it is so no longer since a choice of methods of physiologic assay is now available to any one who cares to look for the information.

In view of these facts, the Council believes that it should enter an emphatic protest against claims of "standardization" based on secret, widely fluctuating "standards;" and in the future it will not accept any preparation for which the claim of physiologic standardization is made unless the standard and method are published in sufficient detail to permit of their control by independent investigators.

1. Abstracted in THE JOURNAL A. M. A., June 12, 1909, p. 1938.

Pau-Cola—A Reprimand to Testimonial-Givers

In *The Bulletin* of the Chicago Medical Society for Feb. 12, 1910, the chairman of the committee on ethical relations reported among other things the following:

"The following leaflet entitled 'Pau-Cola Company, Capital Stock $1,000,000, guaranteed 7 per cent., Preferred Stock,' etc. This is a liquid beverage served at soda fountains to the public. By quite a large number of physicians in good standing as members of the Chicago Medical Society, said beverage is lauded and recommended as a 'healthful drink, good for digestion,' 'an appetizer,' 'relieves fatigue and malaise,' etc., 'containing pure and wholesome ingredients,' a 'safeguard to the health of the community,' 'of great value, delicious flavor,' 'the safest hot-weather drink I have ever known or heard of,' and all this and more is endorsed by reputable physicians.

"It is the opinion of your committee that the practice of physicians lending their names for or without a monetary consideration to advocate, exploit or recommend the use of nostrums is not in good taste nor dignified. All physicians so doing should be reprimanded by your honorable body."

The report was accepted, which, we understand, includes approval of the recommendation in the last line, thus administering the reprimand referred to.

Delegates to the Pharmacopeial Convention

The following list of delegates to the Pharmacopeial Convention of 1910 is received from the secretary, with the statement that it is offered for publication without prejudice, it being understood that such publication does not of necessity mean that these delegates will be received and seated by the convention, as their credentials have not as yet been passed on by the Committee on Credentials and Arrangements.

Attention is invited to the ruling of the Committee on Credentials and Arrangements, that it cannot recognize the right of any one individual to represent more than one organization or institution.

AMERICAN PHARMACEUTICAL ASSOCIATION.—Albert B. Lyons, Charles Holzhauer, Lyman F. Kebler; alternates, Joseph W. England, Thomas F. Main, Leo Eliel.

AMERICAN CHEMICAL SOCIETY.—George D. Rosengarten, L. W. Andrews, Edward Hart; alternates, Thomas B. Aldrich, John T. Baker, A. B. Lyons.

MEDICAL DEPARTMENT, U. S. ARMY.—Walter D. McCaw, Carl R. Darnall, Frederick F. Russell.

BUREAU OF MEDICINE AND SURGERY, NAVY DEPARTMENT.—H. G. Beyer, G. L. Angeny, P. J. Waldener.

UNITED STATES PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE.—John F. Anderson, Reid Hunt, Martin I. Wilbert.

ARKANSAS ASSOCIATION OF PHARMACISTS.—Frank Schachleiter, John B. Bond, Sr., W. L. Dewoody; alternate, Jesse D. Hodge.

COLORADO STATE MEDICAL SOCIETY.—E. C. Hill, George A. Moleen, W. T. Little; alternates, C. M. Gilbert, George W. Miel, Sol Ringolsky.

UNIVERSITY OF COLORADO MEDICAL DEPARTMENT.—Caroll E. Edson, Alvin R. Peebles, William A. Jolley.

YALE MEDICAL SCHOOL.—Oliver T. Osborne, Herbert E. Smith, Clarence G. Spalding.

CONNECTICUT PHARMACEUTICAL ASSOCIATION.—Charles A. Rapelye, John K. Williams, Charles W. Whittlesey.

DELAWARE PHARMACEUTICAL SOCIETY.—H. J. Watson, W. F. Dunn, William Poole; alternates, Thomas Donaldson, J. O. Bosley, J. T. Challenger.

MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA.—Murray Galt Motter, John W. Chapell, D. Webster Prentiss.

GEORGE WASHINGTON UNIVERSITY, DEPARTMENT OF MEDICINE.—Sterling Ruffin, B. M. Randolph, Noble P. Barnes.

GEORGETOWN UNIVERSITY SCHOOL OF MEDICINE.—George M. Kober, G. Lloyd Magruder, W. M. Barton.

GEORGE WASHINGTON UNIVERSITY, NATIONAL COLLEGE OF PHARMACY.—Henry E. Kalusowski, Samuel L. Hilton, Lewis Flemer; alternates, Samuel Waggaman, Frank P. Weller, Wymond H. Bradbury.

ILLINOIS STATE MEDICAL SOCIETY.—N. S. Davis, W. E. Quine, Henry B. Hemenway; alternates, Charles E. Chapin, C. W. Lillie.

NORTHWESTERN UNIVERSITY MEDICAL SCHOOL.—Arthur R. Edwards, John H. Long, Alfred N. Richards.

UNIVERSITY OF ILLINOIS MEDICAL DEPARTMENT.—Bernard Fantus; Alternate, Edward L. Heintz.

ILLINOIS PHARMACEUTICAL ASSOCIATION.—Wilhelm Bodemann, W. C. Simpson, Herman Fry; alternates, Andrew Scherer, G. Lindvall, C. M. Snow.

UNIVERSITY OF ILLINOIS SCHOOL OF PHARMACY.—C. S. N. Hallberg, W. A. Puckner, W. B. Day; alternates, A. H. Clark, C. M. Snow, E. N. Gathercoal.

NORTHWESTERN UNIVERSITY SCHOOL OF PHARMACY.—Oscar Oldberg, Harry Mann Gordin, Charles W. Patterson.

INDIANA STATE MEDICAL ASSOCIATION.—W. H. Foreman, Samuel Kennedy, James A. Mattison.

PURDUE UNIVERSITY SCHOOL OF PHARMACY.—Harvey W. Wiley, Ernest G. Eberhardt, Charles E. Vanderkleed.

VALPARAISO UNIVERSITY SCHOOL OF PHARMACY.—J. Newton Roe, George D. Timmons, A. F. Heineman; alternates, Arthur Linton, John P. Sievers, Otis B. Nesbit.

UNIVERSITY OF IOWA COLLEGE OF MEDICINE.—Charles S. Chase,

UNIVERSITY OF IOWA COLLEGE OF PHARMACY.—Wilber J. Teeters.

KANSAS PHARMACEUTICAL ASSOCIATION.—Frank Holliday, W. S. Amos, Matt Noll; alternate, S. J. Crumbine.

UNIVERSITY OF KANSAS SCHOOL OF PHARMACY.—L. D. Havenhill, E. H. S. Bailey, L. E. Sayre; alternates, H. W. Emerson, F. W. Bushong, W. S. Dick.

JOHNS HOPKINS UNIVERSITY MEDICAL DEPARTMENT.—William S. Thayer, Thomas McCrae, Leonard G. Roundtree.

MASSACHUSETTS MEDICAL SOCIETY.—Frank G. Wheatley, Charles H. Cook, Maurice P. V. Tyrode.

COLLEGE OF PHYSICIANS AND SURGEONS, Boston.—Ephraim Cutter.

UNIVERSITY OF MICHIGAN DEPARTMENT OF MEDICINE AND SURGERY.—Charles W. Edmunds, Worth Hale, J. W. Trask.

MINNESOTA STATE MEDICAL ASSOCIATION.—Ray Humiston, alternate, F. J. Patton.

UNIVERSITY OF MINNESOTA COLLEGE OF PHARMACY.—Frederick J. Wulling, W. A. Frost, Robert L. Moriand.

NEW JERSEY MEDICAL SOCIETY.—Henry L. Coit, Isaac E. Leonard, Henry H. Davis, Joseph Tomlinson.

NEW JERSEY PHARMACEUTICAL ASSOCIATION.—George M. Beringer, Herman J. Lohmann, George H. White; alternates, Edward B. Jones, Charles Holzhauer, H. H. Deakyne.

ALBANY MEDICAL COLLEGE.—Howard Van Rennselaer, Spencer Lyman Dawes, Victor Caryl Myers.

LONG ISLAND COLLEGE HOSPITAL.—Frank E. West, Elias H. Bartley.

UNIVERSITY OF BUFFALO MEDICAL DEPARTMENT.—Eli H. Long, DeWitt H. Sherman, Edward J. Klepe.

SYRACUSE UNIVERSITY COLLEGE OF MEDICINE.—William Dewey Alsiver, Frank P. Knowlton.

NEW YORK STATE PHARMACEUTICAL ASSOCIATION.—Joseph Kahn, John Hurley, Joseph Weinstein.

ALBANY COLLEGE OF PHARMACY.—Willis G. Tucker, Alfred B. Huested, Theodore J. Bradley; alternate, Harry B. Mason.

BROOKLYN COLLEGE OF PHARMACY.—William C. Anderson, Henry W. Schimpf, A. P. Johnness; Alternates, Daniel C. Mungan, Tracy E. Clark, F. P. Tuthill.

UNIVERSITY OF BUFFALO DEPARTMENT OF PHARMACY.—Willis G. Gregory, Frank E. Lock, John F. Gray; alternates, George Reimann, Lee W. Miller, John C. Krieger.

LITERARY AND SCIENTIFIC SOCIETY OF GERMAN APOTHECARIES OF THE CITY OF NEW YORK.—E. C. Goetting, William C. Alpers, F. Hirseman; alternates, Carl F. Schleussner, Otto Raubenheimer.

KING'S COUNTY PHARMACEUTICAL SOCIETY.—Otto Raubenheimer, Adrian Paradis, Miss K. C. Mahegin; alternates, J. H. Rehfuss, C. O. Douden, C. E. Heimerzheim.

NORTH DAKOTA PHARMACEUTICAL ASSOCIATION.—Oscar Hallenberg.

UNIVERSITY OF CINCINNATI MEDICAL DEPARTMENT.—Julius Eichberg, L. C. Schrickel.

OHIO STATE PHARMACEUTICAL ASSOCIATION.—Lewis C. Hopp, T. D. Wetterstroem, George B. Topping; alternates, John C. Firmin, Azor Thurston, Eugene Selzer.

OHIO STATE UNIVERSITY COLLEGE OF PHARMACY.—George B. Kauffman, C. A. Day, William McPherson; alternates, D. S. White, W. E. Henderson, J. McI. Phillips.

WESTERN RESERVE UNIVERSITY DEPARTMENT OF PHARMACY.—Harry V. Arny, Joseph Feil, William T. Hankey.

UNIVERSITY OF OKLAHOMA SCHOOL OF PHARMACY.—Homer C. Washburn, Edwin DeBart, John D. McLaren; alternates, Albert E. Van Vleet, Louis A. Turley, Henry H. Lane.

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.—Adolph Koenig, David Riesman, Henry Beates; alternates, James B. Walker, Thomas S. Blair.

COLLEGE OF PHYSICIANS OF PHILADELPHIA.—H. C. Wood, Jr., Solomon Solis Cohen, James H. Anders; alternates, Richard A. Cleeman, Judson Daland, L. F. Appleman.

WOMAN'S MEDICAL COLLEGE OF PENNSYLVANIA.—Henry Leffman, Arthur A. Stevens, Frederick P. Henry.

PENNSYLVANIA PHARMACEUTICAL ASSOCIATION.—Lucius L. Walton, M. N. Kline, W. L. Cliffe; alternates, C. B. Lowe, D. J. Thomas.

PHILADELPHIA COLLEGE OF PHARMACY.—Joseph P. Remington, Samuel P. Sadtler, Henry Kraemer; alternates, Frank X. Moerk, Charles H. LaWall.

UNIVERSITY OF PITTSBURGH DEPARTMENT OF PHARMACY.—Julius A. Kosh, James H. Beal, Louis Sallback; alternates, Louis Emanuel, B. E. Pritchard, George W. Kutscher.

FORT WORTH UNIVERSITY MEDICAL DEPARTMENT.—R. H. Needham, W. G. Cook, William R. Howard; alternates, M. E. Gilmore, I. C. Chase, F. G. Wanders.

TEXAS PHARMACEUTICAL ASSOCIATION.—J. C. Buckner, E. G. Eberle.

MEDICAL SOCIETY OF VIRGINIA.—Roshler W. Miller, F. M. Read, John Staige Davis.

UNIVERSITY OF VIRGINIA DEPARTMENT OF MEDICINE.—J. A. E. Eyster, J. C. Flippin, J. H. Kastle.

UNIVERSITY COLLEGE OF MEDICINE, Richmond, Va.—A. L. Gray, A. G. Brown, F. W. Howie.

UNIVERSITY OF WASHINGTON SCHOOL OF PHARMACY.—Charles W. Johnson, Irvin W. Brandel, Albert H. Dewey; H. G. Byers, T. C Frye, John Weinzirl.

WISCONSIN PHARMACEUTICAL ASSOCIATION.—Otto J. S. Boberg, Edward G. Raeuber, Ferd W. Thleman; alternates Edward Williams, George Kestin, Richard Sommer.

Miscellany

The Chemical Regulation of the Processes of the Body by Means of Activators, Kinases and Hormones.—Of recent years experimental investigations in physiology and clinical studies on man have led us to understand that the complex of activities in the animal body is united into a functional harmony, not only through a reflex control exerted by the nervous system, but also by chemical regulation effected through the blood or other liquids of the organism. The chemical regulation is brought about by at least two classes of substances, which are not altogether separate and distinct from each other. These are the internal secretions (i. e., those secretions from ductless glands, which pass directly into the blood stream—as is the case in the suprarenal capsule, thyroid, etc.) and the hormones of Bayliss and Starling. Hormones, as defined by Howell (address of the chairman of section K—Physiology and Experimental Medicine, American Association for the Advancement of Science, Boston, Dec. 28, 1909, *Science*, Jan. 21, 1910), are "those substances in solution which, conveyed from one organ to another through any of the liquid media of the body, effect a correlation between the activities of the organ of origin and the organ on which they exert their specific effect." Perhaps the best example of correlated chemical activity among the organs, brought about through the agency of hormones, is to be found in the interrelation of the activities of the stomach, duodenum and pancreas. The process is described as follows: "Hydrochloric acid formed in the stomach and brought into the intestine with the chyme stimulates the epithelial cells of the intestine to form secretin and to pass it into the blood. The secretin conveyed by the blood to the pancreas stimulates this organ to secrete pancreatic juice. The pancreatic juice is carried to the duodenum and stimulates the epithelial cells to form enterokinase, which then activates the trypsinogen to trypsin." Thus clinicians of the present day must bear in mind another great demonstrated physiologic principle, i. e., the chemical correlation of the various activities of the organs and tissues. Concerning the number and importance of the hormones, Howell goes on to say: "The substances of known composition which may be regarded as playing the rôle of hormones are few in number, three or four at most, as follows: First, the carbon dioxid formed in the tissues, particularly in muscle during contraction. It seems agreed now that the carbon dioxid acts as the normal stimulus to the respiratory center. . . . Second, the adrenalin of the adrenal glands, which in some way, directly or indirectly, makes possible the full functional activity of the involuntary musculature of the body. Third, the hydrochloric acid produced in the stomach which stimulates the formation of secretin in the duodenal epithelium. Fourth, possibly the iodothyrin of the thyroid gland with its dynamogenic effect on the neuromuscular apparatus of the body. In addition, there are a number of hormones of unknown composition which have been either proved or assumed to exist, and which are held responsible for certain well-known correlations of function. The pancreatic secretin formed in the epithelium of the duodenum or jejunum which stimulates the flow of pancreatic secretion; the gastric secretin formed in the pyloric mucous membrane which gives rise to the chemical secretion of gastric juice; a secretin formed in the duodenal epithelium which stimulates the formation of intestinal juice in the following segments of the intestine; unknown hormones of pancreatic origin which determine the absorption activity of the intestinal epithelium; vasodilator hormones formed in tissues in functional activity and which have a specific effect on the vessels of the functioning organ: a vasoconstricting and a diuretic hormone formed in the posterior lobe of the pituitary body; a hormone controlling the growth of the bones and connective tissues produced in the anterior lobe of the pituitary body; a hormone controlling the oxidation of sugar in the body and produced in the cells of the islands of Langerhans in the pancreas; a hormone produced in the thymus which controls possibly in some way the development of the reproductive organs; a vasoconstricting hormone formed in the kidneys; a hormone in the salivary glands which controls the flow of water from the blood capillaries in the glands; a hormone produced in the fetus *in utero*, which stimulates the growth of the mammary glands; a hormone in the ovary which controls the growth of the uterus and the processes of menstruation; a hormone in the ovary which controls the implantation of the fertilized ovum and the growth of the placental tissue; a hormone in the testis which initiates the development of secondary sexual characteristics in the male: hormones of an indefinite number, produced in all the tissues and acting specifically on the determinants in the gametes in such a way as to make possible the transmission of acquired characteristics."

Breast-Feeding of Infants.—Supervision of breast-feeding, especially when the nutrition of the infant is under suspicion, cannot be properly conducted without frequent determinations of its exact weight. Only in those extremely rare instances in which there is no secretion from the breasts is it possible to determine with certainty before the expiration of ten or more days whether the infant may not subsequently thrive at the breast, since gains in weight often improve when the mother is out of bed, and has regained her health. Crying may have many causes and is not a reliable indication that the infant is not getting enough milk. Green, or loose, or scanty stools in a new-born infant are often coincident with regular gains in weight. They are frequently due to physiologic conditions, or favored by irregular nursing, and by no means indicate of necessity that the milk disagrees with the infant. When the stools are scanty and the weight stationary or the gains slight, suitable supplementary feeding may be advisable until the breast milk can be improved. Early and sudden weaning should never be advised for an infant of stationary weight until every effort has been made to improve conditions by proper nursing hours, regulation of the mother's health and hygiene, and trial in her diet of milk and of yellow corn-meal gruel. An apparently disturbed infant who is steadily gaining, or has recently gained well, at the breast, should not be weaned until all the factors in the disturbance have been thoroughly investigated, as the probabilities are in favor of successful continuation of lactation. On the other hand, an infant at the breast who seems well and contented and has good stools, should not be allowed to long stand still in weight or to make insufficient gains for the lack of some supplementary artificial feeding. This holds true not only during the first few weeks but at any period of lactation.—T. S. Southworth, in *Amer. Jour. Obst.*

Summary of the Antituberculosis Campaign.—According to Jacobs (*The Survey*, Jan. 29, 1910), a review of the work done in the campaign against tuberculosis during 1909, shows that $8,180,621.50 was spent, 9,456,409 pieces of literature were distributed and 117,312 patients were treated. These figures include the work done by sanatoriums, associations, dispensaries and municipalities. There were about 300 associations engaged in the work, spending $3,253 each, and 16,988 patients were given aid. The capacity of the various institutions aggregated 14,208 beds, 60 per cent. for incipient, 15 per cent. for moderately advanced and 25 per cent. for advanced cases, giving an average of 2.7 patients for each bed during the year, and making the average stay of each patient in the institution 101 days, which is not considered enough. While the small local hospital is becoming more popular, the demand for institutional care is increasing, with the result of a shortened stay for each patient. The average daily individual expenditure of hospitals and sanatoriums was $1.34. There were 250 dispensaries with 61,000 patients, each visiting the dispensary an average of 10 times. Nearly 350 nurses were employed, whose visits to the homes of patients would foot up into the millions. According to the expenditure, the number of patients treated and the literature distributed, New York leads, Pennsylvania comes second and Massachusetts third. For fourth place, while Colorado and New Mexico lead in expenditure, they have done little or no educational work, and fall far below Missouri, Maryland and Illinois in the number of patients treated. In the amount of literature distributed, which Jacobs feels is an index of the educational work done, Missouri stands third, with New Jersey fourth, Rhode Island fifth and Illinois and Massachusetts sixth and seventh. The cities leading in antituberculosis work may be grouped in the following order: New York, Boston, Chicago,

Philadelphia, Baltimore, St. Louis, Pittsburg, Cincinnati, Rochester and Denver. Reports from all parts of the country indicate that this year the work will be more than doubled. Special antituberculosis appropriations aggregating $3,976,500, have been made in the various municipalities for this year, and in addition over $4,000,000 has been appropriated by state legislatures. Besides these large sums, a large number of the existing institutions are planning enlargement of effort, and new organizations are being formed daily.

Prevention of Malaria.—Prof. Ronald Ross (*Public Health Reports*, Jan. 21, 1910), says, regarding malaria and its prevention: Malaria will not remain long in a locality (1) unless the carrying agents (*Anophelines*) are numerous enough; (2) unless there is a sufficient number of infected persons to infect the carriers; and (3) if the insects are prevented from biting human beings. The measures to reduce the disease are therefore: (1) Anopheline reductions, as employed in the Suez and Panama canal zones; (2) case reduction according to the plan originated by Koch and Celli in 1900, by leaving the mosquitoes alone and curing the infected patients; and (3) isolation by the use of nets and screens, an ancient method. Isolation and case reduction require ready compliance on the part of the public, which is difficult to attain; but swamps may be drained and water-courses cleared without objection by any one, expense being the consideration, and on this account this plan is better adapted for areas with great density of population, as cities. General preventive measures are, (1) measuring the amount of malaria in the locality affected by examining periodically the spleens of school children, adults being largely immune; (2) treatment of children by distribution of free quinin; (3) house protection by proper construction, screens, etc.; (4) mosquito reduction where advisable (*a*) by minor works, (*b*) major works; (5) a suitable permanent organization and annual malaria report. An additional measure might perhaps be the introduction of the Indian *Anopheline, Myzomyia rossii*, which does not carry malaria, in the hope that it may crowd out the malarial mosquito.

Tuberculous Passengers on Railroads.—Cars for tuberculous passengers should be compartment cars with compartments opening on a corridor running along one side of the car and not in the center. Each compartment should have two berths, placed lengthwise with the car, a water closet, not enclosed, and a folding washstand with running water. The floor should be covered with linoleum, or should be of cement, and a small rug used. The upholstery should be of leather or, preferably, of movable cushions with washable covers. All dejecta should be thoroughly disinfected before being allowed to escape from the closet. The sputum cups should be of pasteboard and should be burned in a stove designed especially for that purpose. There should be such a stove in each car. When a compartment is vacated by a tuberculous passenger, it should not be used again until thoroughly disinfected with formaldehyd, everything washable boiled, the woodwork and floor thoroughly cleansed and the movable cushions, mattresses and blankets disinfected in a hot room. These rooms should be at railway terminals, where supplies of disinfected cushions, blankets and mattresses could be obtained without causing any more delay than is made necessary by thorough cleaning of the compartments; but owing to the comparatively long intervals in the departure of hospital cars there would be sufficient time for thorough disinfection.—From *Public Health*, Lansing, Mich.

Factory Inspectors and Public Health.—The present needs of the states are the adoption and enforcement of laws of the pattern of those in Massachusetts. Pennsylvania's needs are an affiliation of the factory department with the state and local boards of health, with the submitting of appropriate reports. The supervision over the hygienic conditions of factories, noxious gases and dust, spitting, dampness, ventilation, sanitation, nuisances, location and condition of toilets, dairy and other food inspection should be placed in the hands of medical men qualified in sanitation, as the water supplies and transmission of diseases now are. The factory inspectors should then retain their other duties, being largely advisory mechanicians rather than sociologists. It cannot be expected that factory builders, factory owners or operators will adopt means for the protection of their employees until they receive free instruction and advice which is backed by legal authority, and are then led to appreciate the importance and economic value of saving the health and lives of the workmen. Those factory accommodations which mean inconvenience and estheticism require attention, but those industrial conditions which spell danger and death demand correction.—H. B. Wood, in *Pennsylvania Medical Journal*.

Artificial Feeding of Infants.—Bottle-feeding should be the last and not the first resort. When found to be absolutely necessary it should, when possible, gradually displace the breast. The first step in artificial feeding is to secure perfect digestion of a weak milk mixture which is reasonably certain not to cause disturbance, and so to time our changes as to increase the strength neither too rapidly nor too slowly. Due regard for proper quantities and proper intervals outweighs in importance ultrarefinements in decimal percentages. When the infant is steadily gaining we should not be in too much of a hurry to increase its food, but when the gain slows down or ceases we must carefully investigate the cause and determine whether the evidence calls for an increase or a decrease in the food strength. We should remember that sufficient proteid is the foundation for a well-balanced development, and that more proteid may be given to the average infant over six months of age if the fat does not exceed 2.50 per cent., or at the most 3 per cent., and also that well-cooked starch in some form is readily digested and absorbed after the seventh month, and is more successfully given combined with the milk mixture than in any separate form.—T. S. Southworth, in *Amer. Jour. Obst.*

Animal Experimentation.—Nothing is more certain than that scientific experimentation on animals constitutes the very basis of physiologic, pathoiogic, medical and surgical advance. To question its value in scientific progress is as futile as to question the value of the railway or the telegraph in commerce. To assert that it is synonymous with the infliction of pain rests on gravely mistaken assumptions regarding its procedures. To abolish it or fetter it by legislation would change our hopefulness of future victory over hitherto unconquered diseases into despair, and deprive future generations of the blessings which we believe we or our successors can give them. And yet there are persons who would not hesitate to abolish animal experimentation summarily were they given the power. Others, seemingly normal-minded in many respects, would seriously restrict it. And for what reason? Because of an overwrought emotionalism, a hyperesthesia regarding the possible sufferings of animals, a state of things in the laboratories that is wholly fancied, and an unwarranted distrust of the humanity of man.—F. S. Lee, of Columbia University, in *Science*.

The Saliva Sign of Cancer of the Esophagus.—R. Gaultier has encountered a case of cancer of the esophagus presenting in typical form what he calls Roger's esophago-salivary syndrome: a continuous excessive secretion of saliva as the result of a cancer in the esophagus. This phenomenon is mentioned also in the reports of 20 cases of cancer of the esophagus in the literature. In some cases the salivary reflex was noticed before there was any disturbance in swallowing. The saliva flows most freely during or soon after eating, as a rule; sometimes it is swallowed and vomited later, especially in the morning. The tormenting incessant secretion aids materially in weakening the patients. Gaultier states in his communication in the *Archives des Maladies de l'Appareil Digestif* that his experiments on dogs confirm Roger's explanation of the phenomenon as an esophago-salivary reflex action from irritation of the esophageal mucosa.

Colon Reactions.—A. Mathieu, in the *Archives des Maladies de l'Appareil Digestif*, calls attention to attacks of apparently severe indigestion or simulating chronic appendicitis which are merely the expression of a morbid reaction on the part of the colon to some reflex action, of local or neurasthenic origin, or to absorption of toxins. In some of the 14 typical cases reported in detail the attack was accompanied by loss of con-

sciousness for a few minutes. In other cases there were colic pains and vomiting with an extremely tender point near the splenic flexure of the colon, or in the region of the cecum. In one case the disturbances continued to occur unmodified after removal of the appendix. Treatment should aim to cure existing constipation and any inflammatory condition present in the bowel and last, but not least, should include measures to tone up the nervous system.

Rise of Temperature in New-Born Infants.—The temperature of the baby should be taken, in the rectum, with a special rectal thermometer, with the same regularity as the mother's is taken during the puerperium. During the first week there is very apt to be a rise ranging from 101° to 105° F. This rise has been variously explained: by several it is attributed to sepsis, by others to starvation. I have seen too many babies relieved of this fever by a small artificial feeding, especially when the mother's milk was slow in coming, without any therapeutic remedies, not to believe that starvation is a factor in many cases of otherwise inexplicable high temperature in the child. Associated with the fever, in these cases, are restlessness, constant drawing up of the legs, crying, hot, dry mouth and skin.—H. E. Tuley, in *Archives of Pediatrics.*

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

TO MAKE EPSOM SALTS PALATABLE

To the Editor:—To make Epsom salts palatable, add a small bit of citric acid to each dose. This makes a pleasant drink. I advise my patients to follow this method and it works well, and is a great saving. B. L. HALE, Cherryvale, Kan.

CHEMICAL NAME OF SAL VOLATILE

To the Editor:—What is sal volatile? It is mentioned frequently in a new text-book I have, but in none of my works on materia medica. W. E. WHITESIDE, Fenwick, W. Va.

ANSWER.—Sal volatile is a practically obsolete name for ammonium carbonate. It is generally used in the form of smelling salts with spirits of lavender.

DIPHTHERIA ANTITOXIN IN PERTUSSIS

To the Editor:—What is the present status of diphtheria antitoxin as treatment for pertussis?
C. E. MCREYNOLDS, Goodrich, No. Dak.

ANSWER.—There is no recognizable scientific basis for the practice of treating pertussis with diphtheria antitoxin, whatever the results of its empiric use may be. Against it should be urged the fact that the injection of a foreign serum is not altogether without danger, and hence is not to be recommended when there is not good reason to believe that the beneficial results will certainly outweigh the possible chances of discomfort or even actual danger.

DR. LAMBERT'S TREATMENT OF MORPHINISM

To the Editor:—Please send me the formula of Dr. Alexander Lambert's morphin cure. F. W. BURNS, Stewartville, Minn.

To the Editor:—A patient has asked me if I knew anything about a formula used by Dr. Alexander Lambert to cure the drug and drink habit. She stated that the formula could be obtained through the American Medical Association. I therefore write you for information. I understand that Lambert's experiments were conducted at the Bellevue Hospital. Kindly let me know what Dr. Lambert's formula is and where I can find a reliable report of cases.
J. J. MCGOVERN, Milwaukee, Wis.

ANSWER.—Dr. Alexander Lambert, 36 East Thirty-first Street, New York City, published an article on the subject in THE JOURNAL, September 25, page 985. While the supply of the issue lasts, THE JOURNAL will send copies for 15 cents each in stamps. Dr. Lambert may be willing to send reprints to persons interested. The letters printed above (received in the same mail) are only two out of many inquiries. A full discussion of the subject in our department of Therapeutics, March 5, will contain quotations from Dr. Lambert's articles and others from various sources.

The Public Service

Medical Department of the Army

Changes for the week ended Feb. 19, 1910:

Ashburn, James K., 1st lieut., M. R. C., granted 1 month and 20 days' leave.

Graham, George D., dental surgeon, ordered to proceed from Fort Leavenworth, Kan., to Fort Crook, Neb., for temporary duty for such time as his services may be required at that station.

Simpson, James A., 1st lieut., M. R. C., ordered to duty with 1st Cavalry, from San Francisco, to Boise Barracks, Idaho.

Hewitt, John M., 1st lieut., M. R. C., ordered to duty with 1st Cavalry, from San Francisco, to Fort Walla Walla, Wash.

De Loffre, Samuel M., capt., granted 6 months' leave of absence, with permission to go beyond the sea.

Russell, Frederick F., major, ordered to proceed to New York City, for the purpose of securing from the Rockefeller Institute material for the Army Medical School.

Mills, Robert H., dental surgeon, reported for temporary duty at Fort Jay, N. Y.

Gregory, Junius C., capt., orders to sail from San Francisco, on June 5, 1910, for duty in the Philippine Islands, revoked, and instead will sail Aug. 5, 1910.

Gregory, Junius C., capt, granted 2 months' leave of absence.

Carter, Edward C., lieut. col., ordered to Hot Springs, Ark., for observation and treatment at the Army and Navy General Hospital.

Norris, H. C. R., 1st lieut., M. R. C., relieved from temporary duty at Fort Worden and ordered to Fort Casey, Wash., for temporary duty.

Heterick, R. H., 1st lieut., M. R. C., left Fort Oglethorpe, Ga., on 15 days' leave of absence.

Sharpe, Herbert H., 1st lieut., M. R. C., ordered to proceed from Fort Jay, N. Y., to Fort Adams, R. I., for temporary duty.

Tasker, Arthur N., lieut., granted 16 days' leave of absence to take effect about April 15.

Lyon, Wm. C., 1st lieut., M. R. C., granted 23 days' leave of absence about March 3, 1910.

Craig, Charles F., capt., ordered to proceed to New Haven, Conn., for the purpose of dellivering a lecture before the Yale University Medical School on the subject of the Army Medical Service.

Slater, Ernest F., 1st lieut., orders directing him to sail from San Francisco, June 5, for duty in the Phillppine Islands, changed to direct him to sail September 10, instead.

Robinson, James L., contract surgeon, reported for temporary duty at Fort Worden, Wash.

McCallum, F. M., 1st lieut., M. R. C., on arrival at San Francisco, will proceed to his home and on arrival there will report by telegraph to The Adjutant General of the Army for further orders.

Billingslea, Charles C., capt., and Richardson, William H., lieut., on arrival at San Francisco, will report in person to the commanding general, Department of California, for assignment to duty at Army General Hospital, San Francisco.

Halloran, Paul S., capt, on arrival at San Francisco, will repair to this city and report in person to the commanding officer of the Walter Reed General Hospital, D. C., for duty.

Patterson, Robert H., major, leave of absence extended 1 month.

Medical Corps of the Navy

Changes for the week ended Feb. 12, 1910:

Rixey, P. M., surgeon-general, placed on the retired list from Feb. 1, 1910; detached from duty as Chief of the Bureau of Medicine and Surgery, Navy Department, and ordered home.

Hoen, W. S., P. A. surgeon, ordered to the Naval Station, Guantanamo, Cuba, on expiration of sick leave.

Hayden, R., asst.-surgeon, detached from the Naval Station, Guantanamo, Cuba, and ordered to Washington, D. C., for examination for promotion and then to wait orders in that city.

Bertolette, D. N., medical director, detached from command U. S. Naval Hospital, Washington, D. C., and ordered to continue other duties.

Elliott, M. S., surgeon, ordered to command the Naval Hospital, Washington, D. C.

Johnson, M. K., surgeon, detached from the *South Dakota* and ordered to the *Tennessee.*

Angwin, W. A., P. A. surgeon, detached from the *Tennessee* and ordered to the *California.*

Stokes, C. F., surgeon-general, appointed Surgeon-General and Chief of the Bureau of Medicine and Surgery, Navy Department.

Stokes, C. F., surgeon, detached from the Naval Medical School and the Naval Medical School Hospital, Washington, D. C., and ordered to duty as Surgeon General and Chief of the Bureau of Medicine and Surgery, Navy Department.

Changes for the week ended Feb. 19, 1910:

Furlong, F. M., surgeon, ordered to duty at the Naval Hospital, Boston.

Miller, O. J. acting asst.-surgeon, ordered to duty at the Naval Hospital, Washington, D. C.

Fitts, H. B., medical inspector, detached from the Naval Recruiting Office, Indianapolis, and directed to wait orders.

Brownell, C. D. W., surgeon, ordered to command the Naval Hospital, Puget Sound, Wash., and to additional duty at the Navy Yard, Puget Sound, Wash.

Bagg, C. P., surgeon, detached from command of the Naval Hospital, Puget Sound, Wash., and ordered to the *Colorado.*

Kennedy, J. T., surgeon, detached from the *Colorado* and ordered to the *Indiana.*

Dorsey, R. H., P. A. surgeon, detached from the *Washington* and ordered to duty at the Naval Hospital, Puget Sound, Wash., and to additional duty on board the *Philadelphia.*

Wickes, G. L., P. A. surgeon, detached from the Naval Recruiting Station, Denver, and ordered to the Naval Recruiting Station, Cedar Rapids, Iowa.

Fauntleroy, A. M., P. A. surgeon, detached from the *Indiana* and ordered to continue other duties.

Allen, A. H., P. A. surgeon, detached from the Naval Recruiting Station, Pittsburg, Pa., and ordered to Naval Hospital, New York.

Raison, T. W., P. A. surgeon, detached from the Naval Hospital, N. Y., and ordered to the Naval Recruiting Station, Indianapolis.
Sterne, C. F., asst.-surgeon, detached from the Naval Hospital, Puget Sound, Wash., and ordered to the *Washington*.

Public Health and Marine-Hospital Service

Changes for the week ended Feb. 16, 1910:
Eager, J. M., surgeon, granted 2 months' leave of absence from Feb. 14, 1910.
Nydegger, J. A., surgeon, granted 3 days' leave of absence from Feb. 17, 1910.
Oakley, J. H., surgeon, granted 2 months' leave of absence from March 1, 1910.
Goldberger, Joseph, P. A. surgeon, granted 1 month's leave of absence from Jan. 29, 1910, on account of sickness.
Mason, Wm. C., acting asst.-surgeon, granted 3 days' leave of absence from Feb. 24, 1910.
Naulty, C. W., Jr., acting asst.-surgeon, granted 3 days' leave of absence from February 17, 1910.
Simonson, G. T., acting asst.-surgeon, granted 9 days' extension of leave from Jan. 24, 1910, on account of sickness.
Stier, Carl, pharmacist, granted 6 days' leave of absence from Feb. 7, 1910, under Paragraph 210, Service Regulations.

BOARD CONVENED

Board of medical officers convened to meet at the Marine Hospital, Baltimore, for the purpose of conducting a physical examination of an officer of the Revenue-Cutter Service. Detail for the board: Surgeon W. P. McIntosh, chairman; Passed Assistant Surgeon M. K. Gwyn; Acting Assistant Surgeon W. H. Walsh, recorder.

Marriages

E. L. WILLSON, M.D., to Miss Vida Barry, both of Fowler, Ark., recently.

DAVID N. KEE, M.D., to Miss Mary V. Loftus, both of Gladstone, Mich., recently.

ERNEST GEORGE MAIER, M.D., to Miss Lillian Bach, both of Philadelphia, January 25.

EARL V. MACOMB, M.D., to Miss Lillian Cook, both of Menominee, Mich., February 8.

JESSE HALL SIMPSON, M.D., Louisville, to Miss Elizabeth May Zane, of New York City, recently.

ROBERT R. AGNEW, M.D., Jewett City, Conn., to Miss Bessie Griswold, of Ivoryton, Conn., February 9.

JAMES WILBUR SHANKLAND, M.D., St. Louis, to Miss Abbie E. Morse, of Boston, at St. Louis, February 5.

MAX C. HAWLEY, M.D., Logansport, Ind., to Mrs. Josephine Quinn Vawter, of North Madison, Ind., January 10.

CHARLES HOWARD DAVIES, M.D., Madison Neb., to DORA M. JUDKINS, M.D., of Fullerton, Neb., at Omaha, February 8.

JOHN KENNEDY MULDOON, M.D. Humphrey, Neb., to Miss Dora Eckert, of Charter Oak, Iowa, at Omaha, February 3.

WILLIAM SPICKERS, M.D., Paterson, N. J., to Miss Sophia Reed Hutchins, of San Francisco, at New York City, January 29.

WILLIAM CHAPMAN WARMSLEY, M.D., Tuguegarao, P. I., to Senorita Pura Punciano Garay, of Tuao, Cagayan, P. I., January 10.

Deaths

Henry Kirke Cushing, M.D. University of Pennsylvania, 1851; a life member of the Ohio State Medical Association; a resident of Cleveland since 1835; major and surgeon of the Seventh Ohio Volunteer Infantry during the Civil War; for many years professor in the Western Reserve Medical College, his work including the chairs of midwifery, diseases of women and children, surgery, and medical jurisprudence; for several years a trustee of Western Reserve University, which conferred on him the degree of LL.D. in 1884; through whose instrumentality, in great measure, the amalgamation of the Cleveland medical schools was brought about, and in whose honor the H. K. Cushing Laboratory of Experimental Medicine was recently established; died at his home February 12, from cerebral hemorrhage, aged 82.

William Bancroft Stanton, M.D. University of Pennsylvania, 1898; a member of the American Medical Association, College of Physicians of Philadelphia, and National Association for the Prevention of Tuberculosis, physician to the Henry Phipps Institute; White Haven Sanatorium of the Free Hospital for Poor Consumptives, and Department for Tuberculosis of the Philadelphia General Hospital; instructor in medicine in his alma mater; who made a special study of blood-pressure, in the course of which he devised the instrument with which his name is closely associated; chairman of the section on medicine of the Medical Society of the State of Pennsylvania; author of many valuable articles on blood-pressure and tuberculosis; died in St. Agnes Hospital, February 13, from croupous pneumonia, aged 38.

William H. Taylor M.D. Medical College of Ohio, Cincinnati, 1858; a member of the American Medical Association; for many years connected with the Cincinnati Children's Home, and its president since 1903; president of the staff of the Presbyterian Hospital; one of the founders of the Society of Natural History; a charter member of the Cincinnati Medical Society; for nearly forty years professor of obstetrics in Miami Medical College, and for many years dean of the college; died at his home, February 6, from chronic nephritis, aged 74. At a meeting of the Cincinnati Academy of Medicine, a committee was appointed, consisting of Drs. Nathaniel P. Dandridge, Byron Stanton and Magnus A. Tate to draw up resolutions to be presented at the memorial meeting February 21.

Ernest Wende, M.D. University of Buffalo, 1878; University of Pennsylvania, 1884; a member of the Medical Society of the State of New York; for four terms health commissioner of Buffalo, N. Y.; professor of dermatology in the University of Buffalo, and professor of botany and microscopy in the Buffalo College of Pharmacy; dermatologist to the university dispensary; consulting dermatologist to the Buffalo General Hospital; a fellow of the Royal Microscopical Society and a member of the American Electro-therapeutic Association and American Public Health Association; who made a conspicuous record in improving the sanitation and lowering the death rate of Buffalo; died at his home in that city, February 11, from cancer, aged 56.

William Thompson English, M.D. Jefferson Medical College, 1871; a member of the Medical Society of the State of Pennsylvania and president of the South Side Medical Society, Pittsburg; professor of physical diagnosis to the Western Pennsylvania Medical College, clinical instructor in chest diseases in the Kauffman clinic; consultant in chest diseases in the South Side Hospital; consulting physician to the Passavant Hospital; surgeon of the Eighteenth Infantry N. G. Pa., for several years; died in the Passavant Hospital, Pittsburg, February 8, aged 60.

Charles Paine Thayer, M.D. University of Vermont, 1865; of Boston; a member of the Massachusetts Medical Society; hospital steward during the Civil War; a member of the medical staff of the Northern Pacific Railroad from 1871 to 1874, health officer and city physician of Burlington from 1874 to 1878; from 1893 to 1906, dean and professor of anatomy of the Tufts College Medical School, Boston; and thereafter emeritus professor; died in Atlantic City, N. J., February 1, aged 67.

Philemon D. Harding, M.D. Northwestern University Medical School, 1879; of Evanston, Ill.; a member of the American Medical Association; once president of the Evanston Branch of the Chicago Medical Society; for two terms mayor of Goshen, Ind.; and for 18 years pension examiner; a member of the staff of the Evanston Hospital; died in the Good Samaritan Hospital, Los Angeless, Cal., January 28, from nephritis, aged 71.

Mary E. Greene, M.D. Womans Medical College of Pennsylvania, Philadelphia, 1868; president of the American Household Economics Association; said to have been the first woman to be admitted to the New York Medical Society; a specialist on dietetics; at one time president of the Board of Health of Tulsa, Okla.; died at her home in Seattle, February 9, from heart disease, aged 65.

David Hillis Law, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1861; a member of the American Medical Association; assistant surgeon of the Thirteenth Illinois Volunteer Infantry during the Civil War; a member of the Lee County Pension Board; and for more than forty years a practitioner of Dixon, Ill., died in a hospital in Brownsville, Texas, February 13, aged 78.

Follen Cabot, M.D. Harvard Medical School, 1894; a member of the Medical Society of the State of New York; assistant surgeon of the Seventh Infantry N. G. N. Y. for several years; professor of genitourinary surgery in the New York Postgraduate Medical School and Hospital; died in Mount Sinai Hospital, New York City, February 13, from septicemia, aged 39.

Howard Whited Phillips, M.D. College of Physicians and Surgeons, New York City, 1868; a veteran of the Civil War; died at his home in Perth Amboy, N. J., February 1, aged 72.

Bernhard Claude Schlatter, M.D. University of Zurich, Switzerland, 1864; surgeon in the Austro-Italian Campaign of 1866; died at his home in Brooklyn, February 5, aged 70.

Edwy Joseph Ogden, M.D. Victoria College, Coburg, Ont., 1855; New York University, New York City, 1855; a member of the American Medical Association; formerly chief surgeon of the Western Lines of the Erie System; died at his home in Chicago, February 14, from an infection of the kidneys and prostatic hypertrophy, aged 80.

Leswie Colton Keerans, M.D. University of Maryland, 1902; a member of the American Medical Association; surgeon-in-chief to Mercy General Hospital, Charlotte, N. C.; professor of chemistry and physiology in St. Mary's College, Belmont, N. C.; died in Belmont, February 7, from pneumonia, aged 32.

William Gregory MacDonald, M.D. Harvard Medical School, 1885; a member of the American Medical Association; one of the medical examiners of Suffolk county, Mass.; dermatologist to the Carney and St. Elizabeth's hospitals; died at his home in Jamaica Plain, February 9, from heart disease, aged 51.

Philip O. Erwin, M.D. Vanderbilt University, Nashville, 1882; University of Nashville, 1883; a member of the Tennessee State Medical Association; local surgeon of the St. Louis and Southwestern Railroad at Big Sandy, Texas; died at his home, February 9, from cerebral hemorrhage, aged 54.

Charles N. Potts, M.D. Eclectic Medical Institute, Cincinnati, 1876; University of Louisville, 1890; formerly of Silverton, Colo., and a member of the American Medical Association; was found dead in his office in Durango, Colo., February 2, from the effects of an overdose of morphin, aged 54.

William Whitridge, M.D. University of Maryland, 1862; a member of the American Medical Association; from 1899 to 1908 president of the Baltimore Society for the Prevention of Cruelty to Animals; died suddenly at his home in Baltimore, February 6, from heart disease, aged 70.

George Griswold Hayward, M.D. Harvard Medical School, 1881; a member of the Massachusetts Medical Society and honorary member of the Bar Harbor (Maine) Medical Society, where he practiced during the summer; died at his home in Boston, February 6, aged 55.

Nicholas M. Hoover, M.D. Jefferson Medical College, 1865; a member of the Medical Society of the State of Pennsylvania; assistant surgeon of the Eighty-seventh Pennsylvania Volunteer Infantry during the Civil War; died at his home in Butler, February 7, aged 75.

Charles Griswold Gurley Merrill, M.D. Yale University, New Haven, 1863; assistant surgeon U. S. Army, during the Civil War; for nearly twenty years connected with the U. S. internal revenue service; died at his home in New Haven, Sept. 23, 1909, aged 73.

James A. Mulhern, M.D. Detroit Medical College, 1870; a member of the Michigan State Medical Society; and an honorary member of the Grand Rapids Academy of Medicine; died at his home in Grand Rapids, February 9, from diabetes, aged 66.

Wills de Hass, for seventy-two years a practitioner of medicine, and a frequent contributor to historic and scientific publications; a veteran of the Civil War; died at the home of his grandaughter in Pittsburg, January 24, from pneumonia, aged 92.

John M. Piper, M.D. Victoria College, Cobourg, Ont., 1880; for many years surgeon-major of the Seventh Regiment, London, Ont.; and later surgeon-major of the Governor-General's Body Guard, Toronto; died at his home in Toronto, February 7.

Oliver Hicks, M.D. Medical College of Virginia, Richmond, 1863; a member of the Medical Society of the State of North Carolina, and president of the Rutherford County Medical Society; died at his home in Caroleen, January 2.

William Masyck Memminger, M.D. Medical College of the State of South Carolina, 1888; of Glasgow, Mont.; died in the Deaconess Hospital, Great Falls, Mont., February 3, from septicemia, due to an operation wound, aged 42.

Richard French Hood, M.D. Jefferson Medical College, 1865; formerly a member of the Kentucky State Medical Association; died at his home in Irvine, February 10, from the effects of strychnin, aged 66.

Godfrey Hess Cline, M.D. Jefferson Medical College, 1860; twice president of the Lycoming County Medical Society; died at his home in Williamsport, Pa., from heart disease, January 8, aged 74.

Herbert C. Bradford, M.D. Hahnemann Medical College, Philadelphia, 1856; for twelve years a member of the school board of Lewiston, Maine; died at his home, January 24, from leukemia, aged 76.

James H. F. Milton, M.D. University of Pennsylvania, 1860; a veteran of the Civil War; for many years a practitioner of West Philadelphia, died at his home in Mantua, N. J., February 1, aged 78.

George Z. Horen (license, Ky., thirty years practice, 1894); a member of the American Medical Association; died at his home in Graefenberg, Ky., February 12, from cerebral hemorrhage, aged 62.

Henry P. Mayer, M.D. Hospital College of Medicine, Louisville, 1898; a member of the Kansas Medical Society; died at his home in Parsons, February 4, from malignant disease, aged 52.

Laura E. Stockdale, M.D. Chicago Homeopathic Medical College, 1880; formerly secretary of the Denver Homeopathic Club; died at her home in Denver, January 27, from nephritis, aged 68.

Carl Bronson Smith, M.D. University of Buffalo, 1880; of Painted Post, N. Y.; died in the Corning, N. Y., Hospital, January 26, after an operation for the removal of gall-stones, aged 52.

Floyd Johnson Smith, M.D. University of Maryland, 1895; of Barrackville, W. Va.; died at the Cook Hospital, Fairmont, February 6, from pneumonia complicating typhoid fever, aged 38.

Peter Binford, M.D. New Orleans School of Medicine, 1861; formerly of Somerville, Ala.; died at his home in West Nashville, Tenn., February 7, from cerebral hemorrhage, aged 69.

Lawrence Daniel Doyle, M.D. Long Island College Hospital, Broklyn, 1904; formerly of Bound Brook, N. J.; died at the home of his sister in Plainfield, N. J., February 9, aged 31.

George Hunter Rodger, M.D. New York University, New York City, 1888; of Hammond, N. Y.; died in the Ogdensburg Hospital, February 5, from cerebral hemorrhage, aged 49.

William F. Benefiel (years of practice, Ill., 1877); a veteran of the Civil War; died at the home of his daughter in Atwood, Ill., February 5, from pneumonia, aged more than 80.

Palaemon L. Hilsman, M.D. University of Pennsylvania, 1871; a member of the American Medical Association; died at his home in Albany, Ga., February 3, aged 62.

George E. Brattain, M.D. Medical College of Fort Wayne, Ind., 1882; died in his apartment in Wapakoneta, Ohio, January 29, from hemorrhage of the lungs, aged 51.

Henry Baughman Hamilton, M.D. Transylvania University, Lexington, Ky., 1847; died at the home of his son in Dwight, Ill., January 29, from senile debility, aged 87.

Flint Hart, M.D. Keokuk (Iowa) Medical College, 1892; of West Point, Ill.; died in St. Mary's Hospital, Quincy, Ill., February 6, from heart disease, aged 41.

Max Moskievitz, M.D. Jefferson Medical College, 1890; visiting physician to the Har Moriah Hospital, New York City; died at his home January 4, aged 47.

Charles W. Hickman, M.D. Medical College of Georgia, Augusta, 1873; was robbed, shot and killed in Summerville, a suburb of Augusta, February 2.

James Douglas Terrell, M.D. Tulane University, New Orleans, 1856; died at his home in Blandville, Ky., February 7, from senile debility, aged 79.

David M. McFall, M.D. Jefferson Medical College, 1857; founder of the Memorial Hospital, Mattoon, Ill.; died at his home in that city, February 13.

K. C. Edgell, M.D. St. Louis College of Physicians and Surgeons, 1888; died at his home in Oceana, W. Va., January 28, from angina pectoris, aged 47.

William Poyntell Johnston, M.D. University of Pennsylvania, 1871; died at his home in Fairview, Pa., January 22, from arteriosclerosis, aged 83.

Charles Herbert Mason, M.D. Vermont Medical College, Rutland, 1889; died at his home near Chatham, N. Y., January 27, from nephritis, aged 53.

Batts Overton Schulte, M.D. University of Louisville, 1905; died at his home in Louisville, February 11, from edema of the glottis, aged 26.

Oliver C. Alexander, M.D. Albany (N. Y.) Medical College, 1854; died at his home in Albany, February 9, from arteriosclerosis, aged 80.

James J. Dunleavy, M.D. Yale University, New Haven, 1902; died at the home of his mother-in-law in New Haven, February 6.

Thomas F. Dunigan, M.D. Missouri Medical College, St. Louis, 1874; died at his home in Vichy, Mo., February 1, aged 55.

Frank Richmond Pratt, M.D. Bellevue Medical College, 1891; died suddenly at his home in Manchester, N. Y., February 5, aged 43.

Jesse Lin Boyed Norman (license, Ark., 1903); died at his home in Pangburn, Ark., January 16, from exposure, aged 53.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

Bill to Establish a Department of Public Health

The following bill "Establishing a Department of Public Health, and for other purposes" (S. 6049), introduced into the U. S. Senate by Senator Owen, of Oklahoma, has been read twice and referred to the Committee on Public Health and National Quarantine.

This bill creates a separate department and provides for a Secretary of Public Health. While this is ideal and it is to be hoped that such a condition may be ultimately realized, the opposition to the enlargement of the cabinet and to the creation of any new cabinet officers may make it exceedingly difficult to pass such a bill. It is, however, most gratifying as an evidence of the increasing public interest on this subject.

"Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled:

"SEC. 1. That there is hereby established a Department of Public Health under the supervision of the Secretary of Public Health, who shall be appointed by the President a Cabinet officer, by and with the consent of the Senate, at a salary of $12,000 a year, with like tenure of office of other Cabinet officers.

"SEC. 2. That all departments and bureaus belonging to any department, excepting the Department of War and the Department of the Navy, affecting the medical, surgical, biologic, or sanitary service, or any questions relative thereto, shall be combined in one department, to be known as the Department of Public Health, particularly including therein the Bureau of Public Health and Marine-Hospital Service, the medical officers of the Revenue-Cutter Service, the medical referee, the assistant medical referee, the surgeons and examiners of the Pension Office; all physicians and medical officers in the service of the Indian Bureau, or the Department of the Interior, at old soldiers' homes, at the Government Hospital for the Insane, and the Freedman's Hospital and other hospitals of the United States; the Bureau of Entomology, the Bureau of Chemistry and of Animal Industry of the Department of Agriculture; the hospitals of the Immigration Bureau of the Department of Commerce and Labor; the emergency relief in the Government Printing Office, and every other agency of the United States for the protection of the health of the people of the United States, or of animal life, be, and are hereby, transferred to the Department of Public Health, which shall hereafter exercise exclusive jurisdiction and supervision thereof.

"SEC. 3. That the official records, papers furniture, fixtures, and all matters, all property of any kind or description pertaining to the business of any such bureau, office, department, or branch of the public service is hereby transferred to the Department of Public Health.

"SEC. 4. That the Secretary of Public Health shall have supervision over the Department of Public Health, and shall be assisted by an Assistant Secretary of Public Health, to be appointed by the President, by and with the advice and consent of the Senate, at a salary of six thousand dollars a year, with such duties as shall be prescribed by the Secretary not inconsistent with law.

"SEC. 5. That the Secretary of Public Health shall be authorized to appoint such subordinates as may be found necessary. There shall be a chief clerk appointed at a salary not to exceed $3,000 a year, and such other clerks as may from time to time be authorized by Congress.

"SEC. 6. That the officers and employees of the public service transferred to the Department of Public Health shall, subject to further action by Congress, receive the salaries and allowances now provided by law.

"SEC. 7. That it shall be the duty and province of such Department of Public Health to supervise all matters within the control of the Federal Government relating to the public health and to diseases of animal life.

"SEC. 8. That it shall gather data concerning such matters, impose and enforce quarantine regulations; establish chemical, biologic and other standards necessary to the efficient administration of said department, and give due publicity to the same.

"SEC. 9. That the Secretary of Public Health shall establish a Bureau of Biology, a Bureau of Chemistry, a Bureau of Veterinary Service, a Bureau of Sanitary Engineering, reporting such proposed organizations to Congress for suitable legislation relative thereto.

"SEC. 10. That all unexpended appropriations and appropriations made for the ensuing year shall be available on and after July 1, 1910, for the Department of Public Health, where such appropriations have been made to be used by any branch of the public service transferred by this Act to the Department of Public Health. It shall be the duty of the Secretary of Public Health to provide, on proper requisition, any medical, sanitary, or other service needed of his department required in another department of the Government.

"SEC. 11. That any other department requiring medical, surgical, sanitary, or other similar service shall apply to the Secretary of Public Health therefor wherever it is practicable.

"SEC. 12. That all officers or employees of the Government transferred by this Act to the Department of Public Health will continue to discharge their present duties under the present organization until July 1, 1910, and after that time until otherwise directed by the Secretary of Public Health or under the operation of law.

"SEC. 13. That all laws or parts of laws in conflict with this Act are hereby repealed."

The Cheerful Reception Room

That a great many physicians' offices are furnished and adorned in execrable taste is the observation of Dr. L. W. Flanders, Dover, N. H. (*Bulletin Beacon Hill Hospital Staff*). He says that if he were a layman, and above all a patient waiting to have a boil lanced, he doubts if he should enjoy the contemplation of Dr. Tulp's dissection in Rembrandt's "Lesson in Anatomy." He once spent a few minutes in a doctor's waiting-room, the walls of which roared "shop" at him. The "Lesson in Anatomy" was there, and worst of all, a photograph of the doctor himself at the operating table of some postgraduate school. The apron, the rubber gloves, the soiled sponges, the scurrying nurses all stood out in sad reality. In the consultation room he was confronted with a glass case full of glittering steel, and he said to himself, how can a patient stay through all this?

In the hospital nowadays the patient never sees the grim preparations of the operating room nor the surgeon in his ghostly panoply. Why not extend the same method to the office? Let the waiting room be bright and cheery, the walls hung with beautiful pictures, the chairs easy and the table furnished with entertaining literature, and above all, let the place be clean. Given a dirty waiting room, it is hard to believe that an aseptic surgeon dwells behind the door of the consulting room. All surgical instruments should be hidden in cabinet drawers, and soiled cotton and dirty sponges be buried in the depths of the waste-box.

Club Practice and State Insurance in Great Britain, Germany, Austria and France

Interest in organization questions and especially in their application to the peculiar problems of the medical profession is not by any means confined to this country. Physicians in Great Britain, Germany and France are also showing much interest in questions relating to medical economics. The London *Lancet* in its issue of January 1, under the title, "The Organization of the Medical Profession: Some Lessons from Abroad," says: "The 'Battle of the Clubs,' under which heading we have often described the struggles of English medical men to obtain a fair remuneration for the contract practice which so many of them are compelled to adopt as the only way of dealing with their poorer patients, is not waged in England alone. The necessity of organization of the profession has become apparent throughout the continent where the questions at issue, however, are somewhat different." The effect on

physicians of the establishment by the German government of compulsory insurance for workingmen has already been discussed in this department (THE JOURNAL, Jan. 15, 1910, p. 225).

Austria, it seems, is now taking up the same question, the government having proposed a scheme for general insurance against sickness which provides that every person earning less than 4,800 kronen ($1,000) a year, be required to become a member of a sick-club. A meeting of the medical councils was recently held in Vienna to discuss the influence of such a plan on physicians' incomes. Evidently the same conditions regarding the organization of the medical profession exist in Austria that have existed in Germany. The proposed clubs would greatly lower the average medical income as they would not only employ a less number of physicians to care for their members than now care for the same number of private patients, but would also pay medical men totally inadequate salaries for the work which they would have to do. According to the *Lancet*, a physician drawing a salary of from $500 to $1,000 a year will be expected to look after from 1,000 to 5,000 patients. Austrian physicians are endeavoring to induce the government to reduce the wage limit for compulsory insurance to $500, not requiring any one who earns over that amount to take out workingmen's insurance. While this would diminish the number of members of the sick clubs, it is difficult to see that it would in any way benefit those physicians who were selected to furnish medical attendance for the members. In fact, if the clubs were made up entirely of those earning the smallest wages the possibilities are that the compensation would be reduced rather than increased. The *Lancet* states that there are 2,000 medical men in Austria who are unable to make a living under present conditions and that effective organization is the only apparent relief.

In Germany, Dr. Hartmann, of Leipsic, some eight years ago, organized a fighting medical union familiarly known as the *Leipziger Verband*. Members pay an annual due of $5.00 and are endeavoring to raise a fund of $125,000. Under the compulsory insurance law, each trade forms a sick benefit association and each member pays from 4 to 5 shillings a year for medical attendance. Of the 400 physicians at Cologne, about 80 are employed as club doctors to attend 120,000 workingmen and 20,000 families, which amounts to about 220,000 patients, or about 2,750 patients for each physician. In 1904, a general medical strike was called at Cologne and the 80 club physicians gave up their positions as a result. The effect was that the club imported about thirty-five other medical men to take their places, but finally the physicians won and a five year agreement was signed. This period has nearly terminated and the struggle is expected to break out again.

In France, insurance companies have sought to impose on the medical men whom they employ, while physicians chosen by the injured workmen are accused by the companies of exaggerating the injuries sustained. Medical clubs have been established in a few districts but have not become general. Instead, the municipalities pay a small sum yearly for each person whose name appears on the physician's list as entitled to free medical relief, the money being provided from the local and county revenue supplemented by contributions from the state. The *Lancet* concludes that hard work and inadequate pay for the rank and file of the medical profession are conditions found everywhere. This situation can only be met by presenting an united front and a moderate but positive statement of the attitude of the profession on this subject so as to secure a living income before the inadequate compensation offered has become crystallized into legislation.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
BOWLING GREEN, KENTUCKY

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Seventh Month—Second Weekly Meeting

DIAGNOSIS OF TUBERCULOSIS (CONTINUED)

SPECIAL AIDS TO DIAGNOSIS: Examination of sputum for bacilli; technic of stain by usual methods; methods of Krönig; value of bacilli in early diagnosis. Differential stain for human and bovine bacilli. Lymphocyte sputa (Wolff-Eisner); pathological and diagnostic significance of presence of lymphocytes. Elastic fibers in sputa; significance.

TUBERCULIN TESTS: Tuberculin test of Koch; technic, reliability, dangers. Dosage, general reaction, preparations. Cutaneous reaction, von Pirquet. Preparation used, technic, reaction, diagnostic value.

Ophthalmo-tuberculin, conjunctival, reaction; Wolff-Eisner, Calmette. Preparations, technic, course of reaction. Course of cutaneous and conjunctival reactions in health, in doubtful cases, in different stages of pulmonary tuberculosis, in surgical tuberculosis.

THERMOMETRY: Daily variations, effect of exertion, walks; value of temperature range in early diagnosis.

EXPERIMENTS ON ANIMALS: Animals used, technic, results.

THE ROENTGEN RAYS: Changes occurring in volume of lung in normal respiration; limitations in disease of lung; practical value of *x*-ray in diagnosis.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

CONNECTICUT: Regular: City Hall, New Haven, March 8-9. Sec., Dr. Charles A. Tuttle. Homeopathic: New Haven, March 8. Sec., Dr. Edwin C. M. Hall, 82 Grand Avenue. Eclectic: 42 Meadow St., New Haven, March 8. Sec., Dr. T. S. Hodge, Torrington.

MAINE: Portland, March 8-9. Sec., Dr. Frank W. Searle, 806 Congress Street.

MASSACHUSETTS: State House, Boston, March 8-10. Sec., Dr. Edwin B. Harvey.

Pennsylvania December Reports

The Medical Council of Pennsylvania reports the written examinations held at Philadelphia and Harrisburg, Dec. 14-17, 1909. The number of subjects examined in was 7; percentage required to pass, 75.

At the examination held by the State Medical Society of Pennsylvania, the total number of candidates examined was 70, of whom 63 passed, 6 failed and 1 withdrew. The following colleges were represented:

PASSED College	Year Grad.	Total No. Examined.
University of California	(1903)	1
Yale Medical School	(1907)	1
Georgetown University	(1908)	1
George Washington University	(1905)	1
Northwestern University Medical School	(1907)	2
Keokuk Med. College, College of Phys. and Surg.	(1905)	1
Kentucky School of Medicine	(1907)	1
University of Louisville	(1909)	1
Maryland Medical College	(1909)	2
University of Maryland	(1909)	2
Johns Hopkins University	(1902) (1903) (1909)	3
Tufts College Medical School	(1907)	1
University of Michigan, College of Medicine	(1909)	3
Detroit College of Medicine	(1909)	1
St. Louis College of Physicians and Surgeons	(1909)	1
University of Buffalo	(1909)	1
Columbia Univ., Coll. of Phys. and Surg.	(1904) (1907)	2
Leonard Medical School	(1909)	2
University of Pittsburg	(1908)	3
Jefferson Medical College	(1906) (3, 1908) (7, 1909)	11
University of Pennsylvania	(1883) (6, 1909)	7
Woman's Medical College of Pennsylvania	(1909)	2
Temple University	(1908) (2, 1909)	3
Medico-Chirurgical Coll., Philadelphia	(1908) (3, 1909)	4
University of Vermont	(1909)	1
Medical College of the State of South Carolina	(1897)	1
University of Kiel, Germany	(1892)	1
University of Rome, Italy	(1907)	1
University of Naples, Italy	(1905)	1
University of Turin, Italy	(1896)	1

FAILED College	Year Grad.	Per Cent.
Howard University, Washington, D. C.	(1907)	69.3
Medical College of Indiana	(1896)	54.3
Baltimore University	(1890) 53.1; (1905)	61.6
Ohio Medical University	(1905)	69.7
University of Pittsburg	(1909)	65

At the examination held by the Homeopathic Medical Society of Pennsylvania, the total number of candidates examined was 4, of whom 1 passed and 3 failed. The following colleges were represented:

PASSED

College	Year Grad.	Total No. Examined.
Boston University	(1908)	1

FAILED

College	Year Grad.	Per Cent.
Atlantic Medical College, Baltimore	(1908)	57
Hahnemann Medical College of Philadelphia	(1908)	66.1, 73.8

At the examination held by the Eclectic Medical Society of Pennsylvania, the total number of candidates examined was 7, all of whom passed. The following colleges were represented:

PASSED

College	Year Grad.	Total No. Examined.
Illinois Medical College	(1908)	1
University of Maryland	(1909)	1
Baltimore University	(1894) (1904)	2
Atlantic Medical College, Baltimore	(1909)	1
Maryland Medical College	(1905)	1
University of Pittsburg	(1907)	1

Missouri December Report

Dr. Frank B. Hiller, secretary of the Missouri State Board of Health, reports the written examination held at Jefferson City, Dec. 7-9, 1909. The number of subjects examined in was 12; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 30, of whom 13 passed and 17 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
College of Physicians and Surgeons, Chicago	(1907)	82
Rush Medical College	(1909)	85
University of Michigan, College of Medicine	(1909)	81
St. Louis University	(1908)	84
Barnes Medical College	(1909) 75, 80,	81
American Medical College, St. Louis	(1909)	81
St. Louis College of Physicians and Surgeons	(1909) 75,	75
University Medical College, Kansas City	(1908)	75
Kansas City Hahnemann Medical College	(1909)	75
University of Pennsylvania	(1908)	87

FAILED

College	Year Grad.	Per Cent.
Louisville and Hospital Medical College	(1908)	66
St. Louis College of Physicians and Surgeons	(1908) 67;	(1909) 41, 59, 60, 61, 62.
University Medical College, Kansas City	(1909)	59
Barnes Medical College	(1907) 68.7; (1909) 32, 56, 68,	68, 68
Kansas City Hahnemann Medical College	(1909)	65
Homeopathic Medical College of Missouri	(1909)	61.5
Meharry Medical College	(1907)	62.7

Kentucky December Report

Dr. J. N. McCormack, secretary of the Kentucky State Board of Health, reports the written examination held at Louisville, Dec. 14, 1909. The number of subjects examined in was 14; percentage required to pass, 70, and not less than 60 in any one branch. The total number of candidates examined was 18, of whom 12 passed and 5 failed. One candidate did not complete the examination. Three reciprocal licenses were issued at this examination. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Louisville and Hospital Medical College	(1908)	83
University of Louisville	(1908) 75, 85; (1909) 75, 75, 75, 76, 76.	
Hospital College of Medicine, Louisville	(1909)	82
Medical College of Ohio	(1898)	85
University of the South	(1907)	95.5
Meharry Medical College	(1908)	75

FAILED

College	Year Grad.	Per Cent.
University of Louisville	(1909)	52, 55
Louisville and Hospital Medical College	(1908)	60, 66
University of Tennessee	(1905)	42

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Illinois Medical College	(1903)	Indiana
Louisville and Hospital Medical College	(1909)	Louisiana
University of Michigan, Dept. of Med. and Surg.	(1908)	Michigan

Minnesota January Report

Dr. W. S. Fullerton, secretary of the Minnesota State Board of Medical Examiners, reports the written and practical examination held at St. Paul, Jan. 4, 1910. The number of subjects examined in was 10; total number of questions asked, 110; percentage required to pass, 75. The total number of candidates examined was 20, of whom 16 passed and 4 failed. Sixteen candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Rush Medical College	(1902) 84.2; (1909)	82.8
Hamline University	(1909) 76,	84.1
University of Minnesota, College of Medicine	(1909) 77, 75.4,	77.6
Syracuse University	(1908)	75.4
Columbia University, College of Phys. and Surg.	(1909)	82.8
University of Pennsylvania	(1905)	84.5
Hahnemann Medical College, Philadelphia	(1904)	75.2
Jefferson Medical College	(1909)	79.6
McGill University, Canada	(1909)	76.4
University of Toronto, Canada	(1902)	84.7
University of Gottingen, Prussia, Germany	(1889)	76
Karolinska Medical Institute, Sweden	(1898)	79.7

FAILED

College	Year Grad.	Per Cent.
Northwestern University Medical School	(1909)	73.9
Chicago College of Medicine and Surgery	(1909)	50.2
Louisville and Hospital Medical College	(1908)	55.7
Jefferson Medical College	(1909)	72.1

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Rush Medical College	(1908)	Illinois
Coll. of Med. and Surg., Physio-Med., Chicago	(1909)	Illinois
Chicago College of Medicine and Surgery	(1908)	Iowa
Northwestern University Med. School	(1907) (2, 1908)	Illinois
College of Physicians and Surgeons, Chicago	(1909)	Illinois
Medical School of Maine	(1904)	Maine
University of Michigan, College of Medicine	(1909)	Michigan
University of Missouri	(1904)	Wisconsin
Cornell University Medical College	(1899)	Michigan
Western Reserve University	(1885) Iowa; (1896)	N. Dakota
Miami Medical College	(1886)	Ohio
Marquette University, Milwaukee	(1896) (1908)	Wisconsin

Rhode Island January Report

Dr. Gardner T. Swarts, secretary of the Rhode Island State Board of Health, reports the written examination held at Providence, Jan. 7-8, 1910. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 80. The total number of candidates examined was 9, of whom 4 passed and 5 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
College of Physicians and Surgeons, Baltimore	(1903)	74
Harvard Medical School	(1907)	80
Dartmouth Medical School	(1908)	84
University of Vermont	(1909)	81

FAILED

College	Year Grad.	Per Cent.
Baltimore Medical College	(1907)	71.4
Atlantic Medical College, Baltimore	(1909)	61.9
Boston University	(1899)	63.4
Laval University, Canada	(1904) 61.4; (1909)	67.9

North Dakota January Report

Dr. H. M. Wheeler, secretary of the North Dakota State Board of Medical Examiners, reports the written examination held at Grand Forks, Jan. 4-6, 1910. The number of subjects examined in was 14; percentage required to pass, 75. The total number of candidates examined was 11, of whom 10 passed and 1 took an incomplete examination. Five reciprocal licenses were issued at this examination. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
George Washington University	(1908)	87
Chicago College of Medicine and Surgery	(1909)	89
Indiana Medical College	(1906)	75
University of Minnesota, College of Med. and Surg.	(1909) 87,	88
University of Toronto, Faculty of Medicine	(1907) 75,	86
McGill University, Montreal	(1868) 75;	(1908) 92
Western University, London, Ontario	(1909)	78

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Chicago College of Medicine and Surgery	(1908)	Illinois
Rush Medical College	(1908)	Illinois
Hamline University	(1908) (1909)	Minnesota
McGill University, Montreal	(1908)	Minnesota

Vermont January Report

Dr. W. Scott Nay, secretary of the Vermont State Board of Medical Registration, reports the written examination held at Montpelier, Jan. 11-13, 1910. The number of subjects examined in was 12; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 5, all of whom passed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Medical School of Maine	(1889)	90
Baltimore Medical College	(1908)	82.4
University of Vermont	(1908) 82.7; (1909)	81.3, 84.7

Book Notices

SEVEREST ANEMIAS. By William Hunter, M.D., Fellow of the Royal College of Physicians of London. Vol. I. Cloth. Pp. 226, with Illustrations. Price, $3.25. New York: The Macmillan Co., 1909.

To the student of hematology the name of William Hunter is well-known. Some twenty years ago he described the iron-containing pigment deposits in the liver of pernicious anemia and their relation to processes of blood destruction. A little later he called attention to the occurrence of glossitis as an important clinical manifestation of this disease and to its probable causal relation to gastritis and enteritis with resulting hemolysis in the portal system. Since then he has repeatedly emphasized these views and in 1900 he embodied the substance of his previous communications in a monograph on pernicious anemia.

The present book is announced as the first volume of a work on "Severest Anemias." Hunter's views have become more definitely crystallized and he speaks with no uncertain tone. Pernicious anemias, he says, since the time of Biermer, has been a promiscuous grouping of ill-understood anemias, including several kinds that are etiologically, pathologically and clinically distinct. Ehrlich's emphasis laid on the blood-picture did not clear up the confusion, but rather added to it. From out this heterogeneous mass Hunter declares he can now separate an anemia of a very definite type characterized by a primary specific infective glossitis, gastritis and enteritis, by hemolysis, by secondary compensatory bone marrow changes, often by fever and nervous symptoms. These latter symptoms may be due to secondary infection such as may be the result of "oral sepsis," which complication may at times be removed by appropriate treatment, with corresponding improvement in the patient's condition. This anemia, a disease *sui generis*, he would call Addisonian anemia, as it corresponds to the form first described by Addison.

Hunter takes this stand as the result of more than twenty years' experience with the disease as seen clinically, and at autopsy and also as studied experimentally. He presents some well-executed plates to illustrate the gross and microscopic lesions of the tongue, stomach and intestine. Much, however, of the pathology, symptomatology and treatment is to be considered in the succeeding volume where also will be taken up severe septic anemias that resemble the Addisonian form, are often mistaken for it, but which fail to show the characteristic glossitis, hemolysis and regenerative marrow changes.

One of the most interesting features of this unique and really valuable work is its critical analysis of the literature of pernicious anemia, particularly as expounded by writers who have had the greatest influence, such as Biermer, Immermann and Ehrlich. Biermer's grouping together as pernicious anemia forms due to several different causes is regarded as having been peculiarly unfortunate. And Ehrlich's influence in drawing attention so exclusively to the blood and to the supposedly degenerative lesions in the bone-marrow is severely condemned. Hunter rings the changes on the overimportance attached to the blood-picture and especially to the presence or absence of megaloblasts. "Hematologic methods," he says, "have been a good servant but a bad master."

The book is extremely interesting and instructive, and especially in its historical review of the various opinions that have prevailed concerning the anemia, during the past fifty years. The chronological bibliography will be valuable for reference.

We trust that the succeeding volume will not contain so much that smacks of the controversial. Hunter's attitude is too often that of the advocate striving to prove his case rather than that of the judge aiming to get at the real, scientific truth. We feel that he has a strong case, a very strong one in many respects, but we are also conscious at times that he is not doing full justice to some of the other workers whom he quotes in excerpts that tend to prove Hunter's position, but do not always quite accurately represent the full and complete opinion of the author cited. To be specific, his arguments against Ehrlich's overemphasis laid on the morphology of the blood of pernicious anemia, and the same investigator's conception of the marrow changes as due to a megaloblastic degenerative process have much to be said in their favor, but should not blind our eyes to the fact that this very emphasis laid by Ehrlich on the morphology of the blood, his technic of blood-staining and his hypotheses as to the cause and essential nature of this strange disease, gave an impetus to the study of the anemias and other blood conditions such as nothing else has done. The interpretations of Ehrlich and his followers may often be faulty, but our mass of accumulated facts concerning pernicious anemia is in large measure owing to the incentive inaugurated by this remarkable worker.

Hunter's work is not for the undergraduate. It deals too much with matters of controversy and opinion, is too full of repetitions, and is lacking in many statements of fundamental facts that may be assumed as known by the specialist in diseases of the blood, but should be included if the book is to be consulted by the undergraduate. Much of this lack will undoubtedly be supplied by the later volume, where we also hope to see more clearly set forth exactly what Hunter means when he says that Addisonian anemia is of "drain source," and what convincing proof there is of this origin; what is the specific germ that is the cause and how is this causal relation convincingly proved; and whether his statement (p. 187) that secondary degenerative changes extend along the sensory nerves to the cord and cause the various peripheral sensory disturbances and the subacute degenerations that are described, is based on careful histologic studies. The maps and schemes in this volume are numerous, but we must confess that we have been obliged to study some of these most carefully before being sure we understood them. Perhaps we have missed the primary conception of some of these plans, but it really seems as though the scheme should be so simple as to be grasped almost at sight; or some explanatory key should be furnished.

DIE INNERE UND DIE CHIRURGISCHE BEHANDLUNG DES CHRONISCHEN MAGENGESCHWURS UND IHRE ERFOLGE. (Work Awarded the Alvarenga Prize by the Hufelandsche Gesellschaft.) By Dr. L. Bamberger, Head Physician at the Grunewald Sanatorium. Paper. Pp. 269. Price, 8 marks. Berlin: Julius Springer, 1909.

This little volume of 269 pages contains a *resumé* of the medical and surgical treatment of chronic ulcer of the stomach. It is largely the result of a statistical study of the literature, though the author in reaching conclusions and generalizations is influenced, as he should be, by his own experience with something over 200 cases. A brief introductory consideration of the causation, pathology and symptomatology of ulcer is followed by a consideration of the non-surgical method of treatment, its theory and practical application in cases of bleeding and non-bleeding ulcer and ulcer with complications such as perforation, carcinoma, pyloric stenosis, perigastritis, hour-glass contraction, etc. A lively interest is manifested in the methods of Leube and Lenhartz, which methods apparently seem to Bamberger of about equal merit, though in the bleeding ulcer he properly, as we think, prefers the plan of Leube, though in other cases statistics often seem to favor the Lenhartz technic. By treatment by internal methods permanent cures are obtained in 70 per cent. of cases. Regulation of diet is the all-important measure. Too little attention is paid to treatment, *i. e.*, diet, after a patient leaves the hospital; many relapses might otherwise be spared.

Bamberger is a firm believer in the doctrine that the treatment of chronic ulcer belongs to the internist. Certain cases, however, are clearly surgical and the advantages of the various surgical procedures are briefly described. Stubborn cases with repeated relapses after dietetic cures should have the benefit of operation. This is especially true of pyloric ulcers, but he regards non-pyloric cases that have proved refractory to properly directed dietetic management, as surgical. Perforation, pyloric obstruction and hour-glass stomach are clearly surgical conditions.

There is, as is so frequently the case in the writings of the Germans, a great preponderance of reference to the work of German writers. Other nationalities are occasionally noted, even America being a few times mentioned, generally, however, the writing having been studied in an abstract or in some stray reference that has been run across accidentally. Yet in spite of some shortcomings the thoroughness with which the subject has been studied in the literature of Germany, the careful sifting of evidence by the author, his logical way of

reasoning, his easily understood tables, his simple, plain style, make it clear why the Hufeland society awarded to this work the Alvarenga prize.

THE PRACTICE OF MEDICINE. By James Tyson, M.D., Professor of Medicine in the University of Pennsylvania and Physician to the Hospital of the University. Cloth. Pp. 1412, with illustrations. Fifth Edition. Price, $5.50 net. Philadelphia: P. Blakiston's Son & Co., 1909.

This book has been carefully revised and much new matter added, including the prophylaxis and treatment of typhoid, the Flexner-Jobling serum in meningitis, the Wassermann reaction in syphilis and the parasyphilitic diseases, the serum treatment of hyperthyroidism, treatment by the bacterial vaccines and the employment of the opsonic index, the Cammidge reaction, etc. Pellagra is treated briefly. The chapter on parasites is sufficiently complete and up to date and includes an account of *Necator americanus* and hookworm disease. All these things, which are comparatively new, remind us again how rapidly medicine is advancing and changing in its methods of detecting and overcoming disease. At the same time, it is a source of satisfaction to see the confident statements as to the old-fashioned drugs in the treatment of disease in these days of serums and vaccines and antitoxins. The work contains over 1,400 pages. This is a big book, but as a text-book on the practice of medicine is a sort of department-store of medical knowledge we believe that it should have included a few pages at least on the technic of physical exploration, such as the determination of blood-pressure, pulse tracing, etc., which the author in his preface says were omitted as belonging to works on diagnosis. Inasmuch as laboratory methods are discussed in the diagnosis of typhoid fever, tuberculosis and stomach and blood diseases, some information on these other matters would have been helpful and added to the value without much increasing the size of the book. The book contains a number of charts and new illustrations, and remains one of the standard works on practice.

GIRL AND WOMAN. By Caroline Wormeley Latimer, M.D., M.A., Formerly Instructor in Biology, Woman's College of Baltimore. With an introduction by Howard A. Kelly, M.D., Professor of Gynecological Surgery, Johns Hopkins University. Cloth. Pp. 318. Price, $2. New York: D. Appleton & C., 1910.

This book is made up chiefly of sane, practical advice concerning the regulation of the life of a normal girl. The author states that psychologic research has made it plain that no period in a woman's life is so important as the transition years of development from childhood into womanhood. As this period of transition is a slow one, occupying several years, she believes that the principles instilled into the mind of the growing girl at this time are of paramount importance. The book commences with a discussion of the physical and mental changes occurring at puberty, some of which (or, at least, their frequency) the author seems to exaggerate. The moral disturbances of this period also are unduly emphasized; comparatively few normal girls—that is to say, girls who are in good health otherwise and who have been properly brought up—contract unauthorized debts, swear, become untruthful, etc., even temporarily, at puberty. The chapter on menstruation is practical and contains good advice; but in a book intended for the laity it seems unwise to advise bromid of potassium for dysmenorrhea as "almost the only thing which can be safely used without a doctor's advice." It should never be forgotten, moreover, that puberty is a physiologic period of transition and menstruation a physiologic process, and that the majority of normal girls pass through both with little discomfort. The advice regarding personal hygiene is good. The home treatment given for minor ailments is simple and can be carried out under any circumstances.

A TEXT-BOOK OF PHYSIOLOGY. By William H. Howell, Ph.D., M.D., LL.D., Professor of Physiology in the Johns Hopkins University, Baltimore. Third Edition. Cloth. Pp. 908, with illustrations. Price, $4.00 net. Philadelphia: W. B. Saunders Co., 1909.

Chemical and physical methods of investigation of physiologic processes and phenomena as they become more and more perefected, are constantly replacing or modifying old ideas of vital processes and suggesting, confirming or correcting new theories and observations. The field of investigation in physiology seems unlimited and there is still abundant opportunity for attaining results of the greatest importance, as the author says. The wealth of contributions to our knowledge or of theories and new points of view in physiology demand of an author of such a work as the present one, wide knowledge of what is being said and done and discrimination in the selection and presentation of the matter. This requirement is well fulfilled in this book. Former statements have been corrected and modified in accordance with present accepted views, new material added, and new theories mentioned where they seemed to be reasonable and important. All the statements are made in a clear and forcible manner and the book is a highly satisfactory presentation of the subject for the medical student and physician for whom it is intended.

BIBLIOGRAPHY OF TRYPANOSOMIASIS. Embracing original Papers published prior to April, 1909, and References to Works and Papers on Tsetse-Flies, especially *Glossina palpalis*, Rob.-Desv. Compiled by G. A. Thimm, Librarian, Sleeping-Sickness Bureau. Paper. Pp. 288. Price, 4 shillings net. London: Sleeping-Sickness Bureau, Royal Society, Burlington House, W., 1909.

This is an alphabetical author-index of published works on sleeping-sickness, the trypanosomiases of man and animals, and the tsetse fly, containing nearly 2,000 titles, and comprising, the compiler believes, an almost complete list of references to papers on the first two subjects published from 1803 to March 31, 1909. Besides being indexed under the names of authors, the papers are given under the names of journals in which they appeared. A subject-index, now in course of preparation, will be forwarded to subscribers to the present work. References to the literature of the subject subsequent to March, 1909, are contained in No. 6 and succeeding numbers of the *Sleeping-Sickness Bureau Bulletin*. It may be worth while to note that the director of the bureau desires to receive early copies of authors' papers for notice in the *Bulletin*. The bibliographic work appears to be very well done, and the pamphlet should be useful to those who desire to study the literature of trypanosomiasis and related subjects.

LEHRBUCH DER NERVENKRANKHEITEN. Herausgegeben von Dr. Hans Curschmann, dirigierendem Arzt der inneren Abteilung des St. Rochus-Hospitals in Mainz. Cloth. Pp. 977, mit 289 in den Text gedruckten Abbildungen. Price, 24 marks. Berlin: Verlag von Julius Springer, 1909.

This book is made up of twelve divisions, each devoted to a discussion of a certain class of the various diseases of the nervous system. Each part is written by a different author, and the ability and knowledge of the various authors are sufficient recommendations for the book. The subject-matter is put very concisely, making it a work of value to the student as a reference book and to the general practitioner who is desirous of obtaining the important recent advances on the subject of nervous diseases, without having to consult works intended for the specialist. Special mention may be made of the addition of a new chapter without which no text-book on nervous diseases will be complete in the future, namely, that on the operative therapy of nervous diseases. This chapter deals with the topography of the cranium and its contents, the spinal cord and the peripheral nerves. The technic for the various operations on the brain and cord is well illustrated.

LEHRBUCH DER ERNÄHRUNG UND DER STOFFWECHSELKRANKHEITEN FÜR AERZTE UND STUDIERENDE. Von Professor Dr. F. Umber, Aerztlichem Direktor am Städtischen Krankenhause in Altona. Paper. Pp. 394, with illustrations. Price, 12.50 marks. Berlin: Urban & Schwarzenberg, 1909.

This work is much more compact than that of von Noorden, less concerned with abstruse and theoretical chemical and metabolic problems, and hence, perhaps better suited to the needs of the general physician who is looking rather to the practical than to the ultra scientific side of the questions involved in this disease. The values of the different foodstuffs are considered and different methods of feeding, as by enemata, the subcutaneous route, the forced feeding by the stomach, etc., are discussed. Obesity, diabetes mellitus and diabetes insipidus, gout, and urinary calculi are handled in a satisfactory, though not extended manner. Good plates help in the understanding of gout and the pancreatic pathology of diabetes.

MANUAL OF THE DISEASES OF THE EYE. Japanese Translation of Sixth Edition. By Charles H. May, M.D., Chief of Clinic and Instructor in Ophthalmology, College of Physicians and Surgeons, Medical Department. Cloth.

We are in receipt of the Japanese translation of Dr. May's "Manual of Diseases of the Eye." THE JOURNAL commented

on the original edition of this book when it appeared in English and, therefore, we are relieved of giving an analytical review of this translation. Curiosity, however, prompted the study of the first page to try to gain an idea of the title of the book in Japanese, but after a while it became evident that we were looking at the wrong place for the title; that the title-page was the last page in the book; and further, that to read it one must read backward. This method of reading being unfamiliar here, the attempt was given up. There are few American books that have been honored by translation into many foreign languages as has Dr. May's; it has been translated into German, French, Italian, Dutch, Spanish, and now Japanese, some of these versions being in the second and third edition.

SURGICAL DIAGNOSIS. By Daniel N. Elsendrath, A.B., M.D., Professor of Surgery in the Medical Department of the University of Illinois (College of Physicians and Surgeons). Second Edition. Cloth. Pp. 855, with 574 illustrations, 25 in colors. Price, $6.50 net. Philadelphia: W. B. Saunders Co., 1909.

Little can be added to what was said in the review of the first edition of this very excellent book. The text has undergone a thorough revision; new methods of diagnosis are included and old ones are amplified in order to keep pace with progress, and in this, as well as in other things, the author has succeeded well. That portion of the chapter on the head dealing with the localization of the motor centers has been entirely rewritten to conform to what has been shown by more recent investigations to be correct. The sections on acute abdominal conditions and renal lesions have been revised considerably. Many new illustrations have been added; the many good pictures which were such a notable feature of the previous edition cannot fail to be of value and interest to both surgeon and general practitioner.

MEDIZINISCHES TASCHENLEXIKON IN 8 SPRACHEN (deutsch, englisch, französisch, italienisch, japanisch, russisch, spanisch, ungarisch). Bearbeitet und herausgegeben von DR. J. Meyer, Arzt in Berlin. Flexible leather. Pp. 788. Price, 16 marks 61 pfennige. Berlin: Urban and Schwarzenberg, N. Friedrichstrasse, 105b, 1909.

The editor-in-chief of this book has had the collaboration of colleagues of the various nationalities whose speech is represented. The volume is said to contain about 5,500 words in each of the languages represented (German, English, French, Italian, Japanese, Russian, Spanish and Hungarian), and to include words which, although not strictly medical, are nevertheless frequently used in the description of clinical pictures. It is convenient in size, and appears to be fairly comprehensive in scope. Of course, the attainment of the end in view necessitated rigorous adherence to a plan which forbade all attempt at exhaustiveness and the discriminating comparison or definition of words. No definitions are included, and only one synonym is given in each language.

DISEASES OF INFANTS AND CHILDREN. By Henry Dwight Chapin, A.M., M.D., Professor of Diseases of Children, New York Post-Graduate Medical School and Hospital, and Godfrey Roger Pisek, M.D., Professor of Diseases of Children, University of Vermont. Cloth. Pp. 591, with 179 illustrations and 11 colored plates. Price, $4.50 net. New York: William Wood & Co., 1909.

The general plan of this new work on pediatrics is commendable; the balance between the various subjects is sustained and the chapter on dietetics is particularly well presented. It can be highly recommended to the medical student and to the general practitioner as an excellent epitome of pediatrics from what might be called the American point of view. If there be any point in the book open to criticism it is the Chauvinistic spirit that pervades much of the English literature of pediatrics. The book is lavishly illustrated with original illustrations that lend a clinical atmosphere to the text.

PRACTICAL THERAPEUTICS AND PRESCRIPTION WRITING. By Daniel M. Hoyt, M.D., Instructor in Therapeutics, University of Pennsylvania. Flexible Leather. Pp. 291. Price, $2.50. Philadelphia: Edward P. Dolbey & Co.

This book presents in clear language an excellent summary of the pharmacologic action and therapeutic uses of drugs. The drugs described are classified according to their uses, while the index is adapted from the "Physicians' Manual of the Pharmacopeia and National Formulary" in such a way as to supply a great deal of information in small space. The book is well printed and bound in flexible covers, and is well fitted both for the student and for the general practitioner.

Society Proceedings

COMING MEETING

Medical Society of the Missouri Valley, Omaha, March 17-18.

MEDICAL SOCIETY OF THE STATE OF NEW YORK

One Hundred and Fourth Annual Meeting, held at Albany, Jan. 25-26, 1910

(Concluded from page 643)

Public Health Education

DR. ROSALIE SLAUGHTER MORTON, New York, read a short paper in which she presented the plan of work of the Public Health Education Committee of the American Medical Association.

Clinical Significance of Subfebrile Temperature in Pulmonary Tuberculosis

DR. ARTHUR T. LAIRD, Albany: Continued or repeated slight elevation of temperature is one of the cardinal symptoms of incipient pulmonary tuberculosis. That it is not pathognomonic is shown by its occurrence in other conditions. It may be due to incipient tuberculosis of the lungs, even when physical signs in the chest are entirely negative, just as there may be no abnormal signs in the chest even though there is definite hemoptysis or though tubercle bacilli are found in the sputum.

Study of Tremors

DR. M. NEUSTAEDTER, New York, read a paper on this subject in which he drew the following conclusions:

1. The difference between the various tremors is of kind, not of degree, and every form of tremor is distinctive of a form or group of diseases. 2. No definite relation exists between one form of tremor and another. 3. The frequency of movements has no bearing on the character of the tracing. 4. There is no material difference between the movements of the two sides of the body.

Lumbar Puncture as a Diagnostic and Therapeutic Agent in General Practice

DR. NELSON G. RUSSELL, Buffalo: From an exact scientific point of view, lumbar puncture as an aid in diagnosis, or as a therapeutic measure, may not have made a place for itself, but as an aid in general practice it merits a much more prominent place than it has yet attained.

DISCUSSION

DR. IRVING M. SNOW, Buffalo: The use of lumbar puncture by the general practitioner will clear up a great many obscure cases. Lumbar puncture, however, is not free from danger. It was my misfortune to see a child seventeen months old who had been ill for ten days with pneumonia, when the child developed meningitis. On my advice the family physician urged lumbar puncture, which was done. A syringe was used to withdraw the fluid. The fluid came out quite freely, drop by drop until about 20 c.c. had been withdrawn. Suddenly the child stopped breathing, although the heart action was good. We worked with respiratory stimulants and injected normal salt solution into the spinal canal, and while respiration was kept up for about twenty minutes the child died; death was due to pressure in the medulla oblongata. These fatalities, however, should not deter us from using lumbar puncture, although the man who resorts to it should thoroughly understand its technic.

DR. N. G. RUSSELL: I am aware that sudden deaths have been reported from lumbar puncture, but most of them have occurred in cases in which a syringe has been used, or in which a larger amount of fluid has been withdrawn than I spoke of, namely, 20 c.c. or more. No accident has occurred when the amount withdrawn has been 15 c.c. or less. If we put the limit at 12 c.c., I think the operation is fairly safe. I have done it in all kinds of cases in the hospital, possibly in two

or three hundred, and the patients have manifested no evidence of discomfort.

Adequacy of the Present Treatment of Syphilis Tested by the Occurrence of Syphilitic Nervous Diseases

DR. JOSEPH COLLINS, New York City: Certain nervous diseases, such as paresis, tabes, myelitis, pachymeningitis and endarteritis are sequels of syphilis often long after infection. Many of those in whom such diseases occur have had what is taught to be adequate treatment for syphilis. The occurrence of these diseases proves its inadequacy. Probably the chief reason why the syphilitic virus is not oftener negatived by treatment, and such nervous diseases prevented, is the widespread belief that potassium iodid is an antisyphilitic agent. The utility of mercury in the treatment of syphilitic nervous disease offers proof that mercury, properly administered, may be an adequate antisyphilitic.

DISCUSSION

DR. L. DUNCAN BULKLEY, New York City: For many years I have been satisfied, from what I have seen in my own practice and that of others, that we make a great mistake if we depend to any degree on potassium iodid except to remove certain definite lesions of syphilis. I should say mercury first, mercury last, and mercury all the time. In my clinic I have an assistant who gives mercury by injection with my consent. Sometimes I have the pleasure of showing his cases and my cases and comparing them from the standpoint of treatment. I use internal treatment, while my assistant uses the injection treatment, and I think that I have demonstrated that my results are quite as good. I do not underestimate applications of mercury through the skin, by baths, or by inunction. These are valuable methods, and they save life now and then, but it cannot be done in private practice.

DR. A. A. YOUNG, Newark: What particular form of mercury does Dr. Collins prefer?

DR. JOSEPH COLLINS: In one hospital I use bichlorid of mercury; in another I use salicylate of mercury, and so far as my experience goes one form is just as serviceable as the other if it can be got into the system.

Alcohol in Dermatology

DR. L. DUNCAN BULKLEY, New York: Experimental study has shown that alcohol has a prejudicial effect on cell life, both vegetable and animal, and pathologic studies have demonstrated degenerative changes in almost all the tissues of the body as a result of the action of alcohol taken internally. It is natural to suppose that the skin suffers with the rest of the economy, and clinical experience shows that this is the case, often from even the moderate use of alcoholic drinks, although as yet we have not the histopathologic evidence of the fact. Animals intoxicated by alcohol are more susceptible to infection and toxins than are normal animals, and the process of experimental immunization is unfavorably influenced by alcohol. Experiments and observations show that by its sedative action on the vasoconstrictor center of the medulla alcohol causes a slight paralysis of the nerves controlling the capillaries of the skin; and the signs of flushing after its use in any quantity are well recognized. This dilatation of the capillaries leads to a greater flow of blood to the surface of the body and to a greater congestion of diseased portions; this congestion in many dermatoses being most difficult to control. It is a rare exception to find bad ulcerative syphilis in individuals who have always been teetotalers. The most important direction to give to those who have acquired syphilis is that they shall totally abstain from all alcoholic and fermenting beverages indefinitely, for even long after the primary infection alcohol may induce grave syphilitic or parasyphilitic affections. This is especially true in regard to late nervous diseases, like locomotor ataxia, polyneuritis and paresis. Striking illustrations of the effect of alcoholic drinks on the skin are found in the conditions observed on the face. Various suggestions have been made from time to time in regard to the local use of alcohol on the skin, and it has attained a definite position of usefulness as an antiseptic in surgery. Its bactericidal qualities are well recognized, and its antidotal action to carbolic acid is well known.

Tuberculosis of the Bones and Joints

DR. LEONARD W. ELY, New York: There are two general types of the disease: the primary bony and the primary synovial. These types have been generally recognized abroad, but in recent years a custom has prevailed in America of regarding all joint tuberculosis as of bony origin; this has given rise to much confusion. The focus in the bone later may involve the synovial membrane, and *vice versa*. On the other hand, either may exist alone indefinitely. Healing of the adult tuberculous joint usually takes place by the formation of connective tissue. I believe that healing after abscess formation is much more likely to be permanent than that which has been brought about by encapsulation with connective tissue. In rare instances healing takes place by the formation of a bony ankylosis. Tuberculin tests are a reliable means of diagnosis. Treatment is constitutional and local; and the latter may be conservative or operative. Local treatment is the treatment *par excellence* in children. Conservative treatment may also be tried for a few months in the synovial tuberculosis of adults. The treatment of abscesses comes under the head of conservative treatment. In children the only radical operative treatment ordinarily consists of an amputation. The points to be emphasized are: 1. Tuberculosis of a joint, unlike cancer, does not necessitate total eradication. Areas of repair and extension exist side by side, and much of the tissue is practically normal. Motion keeps the process alive. 2. One should spare no pains to make a positive diagnosis before opening a supposedly tuberculous joint. 3. In adults, when it is possible to produce bony ankylosis, Nature should be allowed to clear away the tuberculous soft parts that are left behind. In operating on the knee the surgeon should secure good exposure and be guided by what is found. If drains are used, they should be removed early, and every care taken to avoid secondary infection.

DISCUSSION

DR. REGINALD H. SAYRE, New York: Tuberculous synovitis exists clinically, although some foreign physicians deny its existence except as secondary to ostitis. In certain cases excision is a necessary and useful procedure in tuberculous joints in children, although, as a usual thing, if the disease is diagnosticated sufficiently early, the case does not proceed far enough to require excision. As I understood Dr. Ely, he advocated great slowness in interfering with a tuberculous joint, and spoke of cases in which there was a slight amount of disease when the patients were first seen, and yet subsequently there was great destruction of the joints. That is probably true, and many joints are sacrificed by too early interference, which by rest and quiet would have been cured by Nature without any exploration. Many years ago I was much in favor of the radical removal of all tuberculous tissue in so-called tuberculous abscesses; but further experience has convinced me that the pursuance of that course is wrong, and that Nature can look after these joints better than surgeons in the majority of cases. So long as the patient's condition is good, the temperature below 100 F. and the appetite good, many of these joints are vastly better left alone than interfered with, whether by aspiration or by more radical operation.

DR. NATHAN JACOBSON, Syracuse: By the newer methods we can arrest the progression of the tuberculous processes in joints. There was a time when early invasion of the joint was advocated. I do not like the term surgical interference. It is perhaps surgical interference to operate at the wrong time, and in the wrong kind of case, but a surgical procedure which is justified never deserves the designation of surgical interference. There are, however, many methods to-day which we can use in these tuberculous processes which will favor the limitation of the processes, and among them are the method of Bier by producing hyperemia, the use of the *x*-ray, or the high-frequency current, superficial cauterization, and rest by fixation. All these are measures which can be used and, if employed judiciously, will in many cases arrest the process and obviate the necessity of surgical interference. But the time comes in some cases when surgical attention is required. It is not possible to lay down a radical rule as to whether we shall take away a small or large fragment in all cases; each case must be a law to itself. During the past two

years I have had two cases of extreme invasion in which other surgeons said nothing but amputation would be of any service; in both of these extensive resection has led to union and to good results. In cases in which there is extensive destruction, there should be radical removal of all foci approachable and the satisfactory results will justify a wide removal of the diseased tissue; and bringing the parts together in proper position without any suture will secure firm union, and a useful joint, and not only that, but improvement of general health. Under such treatment these patients take on flesh, and become vigorous, self-reliant and useful citizens.

Duty the Medical Profession Owes Women with Uterine Cancer

DR. WALTER B. CHASE, Brooklyn: In view of the appalling fact that statistics of registration show that 1 out of 11 of all women die of cancer, and that after reaching the age of 35 the mortality increases to 1 in 9; and that as most of these are cases of uterine cancer, the question arises whether the medical profession does not owe an unfulfilled obligation to this most unfortunate class of sufferers. While large benefactions and well-organized efforts are ministering to the comfort of the tuberculous, there is in New York State no systematic humane plan to reach these more terrible cases in which the patients are condemned to helpless suffering and torturing death. There is substantial basis for the belief that earlier recognition of malignancy in these cases would add something to the measure of relief to be obtained by radical or palliative treatment. Among these unfortunate women are large numbers whose resources make it impossible for them to secure proper medical advice or capable nursing. It is also painfully apparent that hospital facilities for incurables are entirely inadequate to meet the needs of society not only in malignant but other diseases.

In view of these facts I offer the following resolution:

Resolved: First, that the medical society of the State of New York shall by its President appoint a committee of four, whose duty shall be to urge on all practitioners of medicine in this state greater care in making early diagnosis in cases of suspected uterine cancer.

Resolved: Second, that this committee be directed to devise some method by which along ethical lines women may be properly informed why they should seek early professional advice in menstrual or hemorrhagic disorders; and that they are further instructed to consider some more comprehensive plan whereby a general diffusion of appropriate and vital knowledge may be promulgated on this very important subject.

Resolved: Third, that this committee be directed to report its recommendations at the next meeting of the society.

Resolved: Fourth, that the treasurer of this society be directed to honor payment of bills incurred for printing and needful correspondence (if not otherwise provided for), and that this committee be empowered to fill vacancies in its membership and to appoint sub-committees if deemed expedient.

Experimental Epidemic Poliomyelitis

DRS. SIMON FLEXNER and PAUL A. LEWIS, New York, presented this paper. The important points have been fully covered in the various articles on the subject by the same authors in THE JOURNAL, Nov. 13, 1909, p. 1639, Dec. 4, 1909, p. 1913, Dec. 18, 1909, p. 2095, and Feb. 12, 1910, p. 535.

The Relationship Between the State Board of Regents and Training Schools

DR. JOSEPH MERZBACH, Brooklyn: The practicing physician ought to make his influence felt in the legislative and administrative measures directed to the problem of educating nurses. In all the meetings of nurses' associations, supervisors' associations and hospital superintendents' associations, a good deal of eloquence is expended in the interest of the nurse and the training school and of the hospital, overshadowing completely the practicing physician, who gives bread and butter to the majority of all graduate nurses. It is not surprising, therefore, that he has found no opportunity to have his voice heard in the board that issues the syllabus and frames the questions for examinations. In fact, the board consists only of nurses, but I believe it will be necessary to call the attention of the State Board of Regents to the monstrous proposition that no other interest is represented in that important body in order to have the defect remedied. I believe that the practicing physicians in the state should have at least one representative on this board. In addition the board should consist of a representative of the training schools of the hospitals, of the teaching bodies of the training schools, so that all interests may be properly protected in the necessary changes that will have to be brought about in the system of educating trained and registered nurses.

Some Unsolved Problems in Relation to Nurses' Training Schools

DR. CHARLES STOVER, Amsterdam: The nurses' training school presents a more complicated problem in relation to hospital administration than does the medical school. It should be considered, therefore, from the standpoint of the various interests centering in the hospital, and these may be grouped as follows: The public, the trustees or governors, the medical student and the nurses' training school. At the last annual meeting of the American Hospital Association a special training school committee reported on the possibility of standardizing the teaching of nurses, but the result was not very definite owing to the present state of hospital work and the various types and associations of hospitals in cities and towns; another committee was appointed to investigate fully the subject of nursing of people of limited means in their homes and the education of trained attendants for this work. Medical counsel should be sought in reference to training schools for nurses. I move, therefore, that the president appoint a committee on nurses' training schools, consisting of five members, to confer with the state department of education when necessary; to affiliate with the other organizations on matters of common interest; to cooperate with the committee on legislation, and generally to advance the mutual interests of this society and nurses' training schools.

Discussion on the Nursing Problem

DR. DAVID R. BOWEN, Rome: Several years ago, when I was engaged entirely in family practice and had no help from trained nurses, I began to dream of the time when I might do something to mitigate the crying need for nurses for the rural and wage-earning population. Can we supply that need with justice to the nurse and with justice to the patient by having a shorter course of instruction than has been given? I think we can. I think it is possible to train the average wage-earning girl, who can read and write and spell, in one year so that she will be worth $10 or $12 a week in such families as a nurse. Certainly, in one year, with proper training, we can raise such a girl to a higher standard than that of the practical nurse who has picked up her training absolutely by herself, and empirically. The training school with which I am connected has been running two years. In that time we have done 1,000 operations, about 60 per cent. of which could be classed as major operations. There have been no cases of sepsis other than stitch abscesses, and no more of the latter than would have occurred with nurses of longer training. There is great need for this class of nurses.

DR. H. W. BARBER, Rochester: There is a crying need for reformation by this society along the line of nursing. Dr. Bowen voices this need for nurses among the middle and lower classes. It is safe to say, that not 20 per cent. of the people of our cities are able to pay the prices charged for trained nursing. I can hardly see, however, how it would be possible to run two classes of training schools in the same hospital. I am afraid the two would not work together; I mean the training of nurses prepared for registered graduation, and the training of, we will say, practical nurses. It seems to me that hospitals could be set aside for this particular purpose. From my observation, not more than 10 per cent. of the people employ trained nurses. But be that as it may, there is a large class of people who really need the services of nurses who are not so well trained, but who are capable of nursing in a practical way, and at much less remuneration.

DR. POTTER: The need for nurses at moderate prices could be overcome if we could draw on an institution for district nurses in case physicians needed help in that line. A certain number of these nurses could be made useful before they graduated. Such nurses might receive $10 or $12 a week, and this money could be turned into the nurse fund, and would not only help the hospital, but the physician and poor people.

DR. J. P. CREVLING, Auburn: The worst feature in connection with the system of nursing is that it is driving the better class of girls out of nursing. Take bright girls, with good education and good common sense, and very few will take a

three-years' course in nursing when they understand that, after spending those three years in training, the time of their service will be about ten years, and that perhaps half of that time they will be idle, and consequently will have very little saved at the end of that period. With these facts before them, it is only natural for bright girls to seek some other business.

MR. A. S. DOWNING, State Education Department, Albany: It has been my official duty to study the question of training of nurses, and to deal with the problems involved. I am in sympathy with those who believe that we should provide by statute for a class of nurses, especialy known as domestic or practical nurses, who shall go to the middle and poorer classes and give their services at moderate prices, but who, working under the immediate direction of the physician, are competent to perform the ordinary duties required by the physician in the care of the sick. There are many people in moderate circumstances who can afford to pay moderate prices for nursing, but who cannot afford to pay the extreme prices of $25 or $30 a week for such services as are rendered by trained nurses. In the consideration of this question the medical profession, the people at large, and the registered nurse must all be protected.

DR. H. L. HULETT, Allentown: In my town we are from 30 to 80 miles from any hospital where we can get trained nurses, and even if all the people could afford to pay the price of the services of trained nurses we could not get them in our section. We need some such system of nursing as Mr. Downing mentioned.

On motion of Dr. Barber, a committee of five was appointed to confer with a similar committee from the board of regents with regard to this matter.

Importance of Care in Closing the Abdominal Incision

DR. LE ROY BROUN, New York: It is the desire of all operators to have as small an amount of absorbable material in the wound to be taken care of as is consistent with safety. I bring the peritoneum together with a running suture of No. 1 plain gut. The muscle is coapted with a few sutures of interrupted No. 2 plain gut. In closing the fascia I have discarded the continuous suture and use No. 2 or No. 3 chromic gut, interrupted by over one and a quarter inches. The skin is brought together with a running suture of silk. I follow this plan in all ordinary operations. Lapping the fascia under certain circumstances adds to the security of the wound, but I have never felt that it was necessary except in hernias. The Pfannenstiel incision unquestionably adds much to the firmness and security of the wound. I use it in clean cases, but believe that the dissection required renders it unsafe in cases in which there is possibility of wound infection. Introduction of safety non-absorbable sutures including the skin, fascia and part of the muscle adds to the security of the wound. They are not tied until all layers are sutured. I think it important to apply a firm supporting bandage before the return of the patient to bed. The surgical dressing is covered by firmly applied three-inch adhesive strips extending well over from the loin on one side to that on the other. The strips lap one another one-third and extend well above and below the line of incision. Over all is placed a snugly applied heavy muslin scultetus binder. At the first dressing the adhesive strips are cut down through the center and laid back. This is facilitated by laying over the original dressing a sheet of gutta percha tissue. The adhesive strips are not removed for two weeks, but tightly laced up by the nurse after each subsequent dressing.

DISCUSSION

DR. J. T. W. WHITBECK, Rochester: I desire to emphasize the importance of not tying the sutures tightly, especially the sutures which pass through the layers. If these sutures are not drawn too tightly and there is no sepsis, they can be left in place for two weeks and I have found in most cases that the sutures do not cut, that they remain dry and may on this account be left in place for two weeks, which in suitable cases enables the patient to sit up after the first week and to have safe union after two weeks.

DR. WALTER B. CHASE, Brooklyn: A strong chain is governed by the strength of its weakest link and so the results after a median incision following operation depend on securing proper union of the transversalis fascia more than of any other structure. When the incision is not made in the median line and when it involves different layers of the abdominal wall, hernia is more likely to occur than when a median incision is made. I think added security can be given to the abdominal wall by overlapping the layers, particularly the transversalis fascia. In cases in which the abdominal wall is thick there is a possibility in suturing of a tendency to hernia. If blood or serum accumulates there it gives trouble, and in such cases I would advise putting in a small piece or wick of gauze down to the transversalis fascia if there is an accumulation of blood or serum after operation; when that is withdrawn it allows the blood to escape and aids materially in the process of healing. It can be withdrawn at the end of a day or two and it will be found that the wound will heal kindly and there will be additional safety in securing perfect union.

Chauffeur's Fracture

DR. WILLIAM S. THOMAS, New York: The type of fracture most commonly observed among chauffeurs is a subvariety of the ordinary Colles' fracture, which forms a distinct clinical entity. Immobilization of the forearm and wrist in anteroposterior splints is sufficient in a majority of cases. The fingers are left free and the patient is instructed to move them freely for by so doing a return to the normal use of the hand will be enhanced. Massage by one who is skilled in the art is of prime importance and should not be omitted. It may be begun immediately. The prognosis is as good as can be expected in cases occurring in young active adults where the deformity is but slight. The patient is usually able to resume work in three weeks with a wrist-band to be worn for a week or two after release from the splints.

Shall all Fibroid Tumors of the Uterus be Removed with the Knife?

DR. FRANK DE WITT REESE, Cortland: In most women the probable growth of a fibroid is made manifest at the first menstruation which is painful. Of my 82 patients with fibroid 77 suffered with pain at the first menstrual period. Large-sized tumors with small pedicles are better out of the abdomen than in it. Mixed fibroid tumors should be removed at once, because they may contain malignant cells which may be the leaven that will make the whole lump cancerous as the woman approaches the climacteric. A fibroid with a twisted pedicle should always be removed as soon as the condition is discovered. Certain fibroid tumors should not be removed with the knife; they are not curable by any known treatment, but stand out distinctly in a class by themselves. Two of my cases were of this variety, and the patients were operated on after I had advised against it, and both died. Of the 82 patients, 60 per cent. recovered and others are in different stages of improvement. During the period of my observation of these 82 women, I have seen 11 patients with cancer of the cervix and fundus. All but 2 of these were operated on. The findings in 9 specimens showed only 1 case in which the fibroid was associated with a carcinoma, and in this case it was a question whether the small fibroid nodules were not due to the acute irritation derived from the malignant growth. The success of the treatment of fibroid tumors depends first on early and accurate diagnosis. The early diagnostic symptom of a uterine myoma is dysmenorrhea and the decided prognostic symptom is dysmenorrhea at puberty. If local and constitutional treatment of uterine fibroid is successful, it will depend on the faithfulness of the patient and the thoroughness of the physician.

SYMPOSIUM ON VACCINE THERAPY

Human Glanders Treated by an Autogenous Vaccine with Recovery

DR. A. T. BRISTOW, Brooklyn: The practical lesson to be learned from the case reported is that it ought to be the invariable practice in all well-organized and properly conducted hospitals to hunt down each infection to its bacteriologic source. In a few hospitals exceptionally equipped this is done, but it is not the rule, but rather the exception. The principal points of interest in the bacteriologic diagnosis of

glanders in the present case may be summarized briefly as follows: 1. Isolation of *Bacillus mallei*, always in pure culture from the local lesion. 2. Negative blood cultures. 3. The difficulty experienced in demonstrating the bacilli in stained preparations of pus or exudate from the lesion emphasizes the necessity of controlling such smears with cultures. The small number of bacilli present at the site of infection bears evidence of the high virulence and powerful toxin production of this organism. 4. Positive agglutination test both of the bacillus isolated with a known serum and of a known culture by the patient's serum. 5. Positive Straus reaction.

Treatment of Surgical Tuberculosis by Vaccines

DR. JAMES A. MCLEOD, Buffalo: After a wide experience in the treatment of the surgical forms of tuberculosis, I am of the opinion that in tuberculin we have a valuable aid. Soon after inoculations are instituted, the general constitutional condition of the patient is materially improved. He feels better, he appears better and he soon shows that he is really better by an increase in his weight. Marked improvements in the local disease are not to be looked for until after several months of inoculation. When operations are performed on patients previously treated with tuberculin the wounds heal as a rule promptly. The danger of secondary infection is much reduced, and when it does occur it quickly responds to the inoculations with the suitable vaccines. The dangers of a general systemic miliary infection and the dangers of lardaceous disease are practically eliminated.

Vaccine Therapy of Surgical Tuberculosis

DR. LEWIS L. MCARTHUR, Chicago: Although the tuberculo-opsonic index in the healthy individual is fairly constant, the variations of the same index in the tuberculous patient are influenced by so many factors as to leave the observer in doubt as to its true value. As a diagnostic method the opsonic index is not infallible. Its employment as a therapeutic guide to vaccine dosage, while desirable, is not absolutely essential. In a majority of instances it is useful for both and when feasible should be utilized. Tuberculous cervical adenitis, particularly in children, seems to yield to vaccine therapy. Since this process is always secondary to a preceding tuberculous process above, care is always taken to remove the primary focus, be it the tonsils, adenoids or other tuberculous processes, if evidence obtains of its persistence and activity. Patients with peritoneal tuberculosis with effusion have been cured in the past by operative measures. It seems probable now that a cure is and can be effected by the replacement of old serum, low in opsonins, by a serum of higher opsonic content. If the opsonic content of the blood serum be raised by vaccine prior to operative interference, the efficacy of the procedure is proportionately enhanced. Tuberculosis of the genitourinary tract has furnished to the vaccine therapist some of his most startling results. Interesting observations of such cases have been made by Hektoen. Prior to treatment he found highly purulent urine, with clumps of tubercle bacilli, free in the urine, none in the leucocyte, and great dysuria. After institution of vaccine therapy, bacilli began to be found in the leucocytes, few free, to be followed by no free bacilli, all in the leucocytes. Later fewer bacilli were found in the leucocytes and finally few leucocytes with no bacilli and no dysuria, the patient being symptomatically well. I do not wish to be understood as advocating the use of vaccine therapy to the exclusion of a single means already known to be efficient. On the contrary, known factors for good are to be added to vaccine therapy. Active immunity in an acute infection can best be secured only when the opsonic index is used as a guide. Experience in using vaccine without regard to such control has been discouraging, and throws doubt on the efficacy of the procedure.

Vaccine Therapy in Colon Bacillus Infection of the Urinary Tract

DR. FRANK BILLINGS, Chicago: Colon bacilluria occurs in fully 50 per cent. of cases of bacteriuria. The condition may be unattended with perceptible effect, either local or systemic. It is important to use autogenous vaccines in these cases. Cultures may be made from urine after it has been transported a thousand miles to a laboratory by one who is properly trained in bacteriologic technic. Autogenous vaccine may be made by heating the culture to 60 C. for thirty minutes. This kills the bacilli. Fresh suspensions of the dead bacillus should be used. Suspensions more than two weeks old may not give the same results. Usually the first vaccination is made with two hundred million bacilli. Subsequent dosage may be increased until a decided local and general reaction occurs. The maximum dose in my work was one billion. Experience has proved that small doses are preferable to large ones with some patients. From five million to one hundred million may produce a sufficient reaction for curative purposes and diminish the risk of a too great reaction. Absolute rest, much of the time in bed, with a copious fluid diet, chiefly milk, shortens the course of treatment, reduces the risk of chill with reaction and makes recovery more certain. The specific effect of autogenous colon bacilli vaccine therapy is proved by the phenomena of reaction, which consists of a local reaction at the point of injection, including redness of the skin, tenderness and swelling over an area from one to two inches square. This begins in 1 or 2 hours after the injection, reaches the maximum in from 12 to 18 hours, and gradually disappears by the end of from 48 to 72 hours. A general reaction occurs in from 2 to 12 hours, manifested by general malaise, aching of muscles, bones and joints, more or less headache, more or less fever, sometimes preceded by a chill and a leucocytosis. If the patient is up and about the reaction is more severe, as manifested by severe chill and fever. In many patients there is irritation manifested by pain, aching, etc., of the kidney, bladder, joints and groups of muscles, respectively, which are the seat of morbid changes, due to the colon infection. The specificity is further indicated by an increase in the opsonic index, and finally by an immunity manifested by the failure of reaction after vaccination and the disappearance of the bacteria from the urine. One should employ at the same time all rational measures to relieve the patient, as general hygiene, personal cleanliness, correction of diarrhea or constipation, hematinics, when necessary, and surgical or mechanical measures to correct anatomic faults which interfere with proper drainage of the urinary tract.

DISCUSSION

DR. NORMAN K. MCLEOD, Buffalo: It has frequently been said that the opsonic index is of no value from a diagnostic standpoint, or from a curative standpoint, in regard to the dosage of tuberculin. At one time, in this country, when various serums were sent to various laboratories, it was claimed that there was a variation in the opsonic indices of from 1.5 up to 1.2, 3 and 4. This was entirely adverse to what I found, and Dr. McArthur's work on this subject in placing the index at from 1.8 to 1.2 is entirely in accord with my work. Dr. McArthur's work on the cervical glands agrees with mine, but I would like to know if he has tried inoculations before operating. I have frequently seen patients who have been operated on after several months of inoculations, and I would take these large glands and inoculate them for long periods of time, to find out whether I could stop the breaking down of the glands. In a few cases I have kept the glands from breaking down, and later, when an operation was performed, the glands could be shelled out very easily; this was followed always by primary union.

With reference to Dr. Billing's paper, I have done a good deal of laboratory work on colon bacillus infections of the bladder and urinary tract under the direction of Drs. Stanton and Jones. Recently I saw three cases of infection following confinements, and each simulated an acute streptococcus infection of the endometrium. Two were accompanied by thrombosis, and in each case cultures from the endometrium revealed nothing. I could trace no infection anywhere, except that the urine was loaded with the colon bacillus.

DR. CHARLES N. DOWD, New York: Much of the observations concerning vaccine therapy would seem to hinge on the question of tuberculous lymph nodes. I agree to the advisability of using vaccine therapy in its place, but I also think that, instead of giving vaccine therapy for one or two or three months before an operation, that an operation should be done first; then, if there is any possibility of any remnant or rem-

nants being left, the vaccine therapy may be given on that basis. There is no place in the body that offers as favorable a position for the surgical treatment of tuberculosis as the neck, and tuberculous lymph nodes can be taken out easily. They can be removed so thoroughly that recurrence seldom takes place. I speak from experience, because I have operated on over 300 patients, and have followed them for from 1 to 15 years. After operation, recurrence is not common.

DR. ALLEN A. JONES, Buffalo: Does Dr. McArthur use mixed vaccines, and if so, in what doses? I gather from Dr. Billings' paper that tuberculin is being used in ordinary doses in Chicago, rather than in accordance with the doses advocated by Dr. McLeod.

DR. ROBERT T. MORRIS, New York: At present, we are making investigations in regard to intractable leucorrhea, particularly in school girls, in whom the discharge is not virulent, although it is secretory in character. I find there colon bacillus infection, or as the cause for the disturbance a bacterium occurring in the culture medium which is produced from uteri in women who are engaged in laborious work. I wish to ask if in these cases vaccine therapy would be of service as an addition to other treatment which is not very effective.

DR. J. DAY OLIN, Watertown: I have in mind a case of colon bacillus infection which occurred in my own practice following an operation, with an infarct of the kidney, in which the method that has been mentioned was followed; the local bacteriologist made a vaccine from the culture, which was used with gratifying results. The case was not at all responsive to the ordinary methods of treatment, but was easily treated in this way. I recall another case of ascending cholangitis from an infected gall-bladder, which was going to the bad, and in which the patient was treated with mixed vaccines with very good results. This vaccine treatment is not beyond the reach of general practitioners, even in places somewhat remote from the great medical centers.

DR. L. MCARTHUR: I have been following rather closely the dosage advocated by Wright, that is, 1/1,000 of a milligram at the commencement, and gradually increasing up to 1/500 of a milligram of the tuberculin. While the dosage with other vaccines may be raised to an enormous degree, the use of tuberculin in my opinion has not yet justified any such large amounts. I must confess that in cases that I have deemed surgical and required operation I have promptly taken out tuberculous glands in the neck. Those patients who refuse operation, and those who had already been operated on and returned with fistulas, have been treated with tuberculin beneficially. I would like to call attention to the valuable contribution of Dr. Billings, in that he has demonstrated to us as surgeons that old cases of bleeding from the kidney, which we could not determine as being due to a tumor, or as being due to the hematuria of malaria, but which we were led to incise, can be classified now as bacterial hemorrhages and can be cured by the administration of vaccines.

DR. F. BILLINGS, Chicago: No attempt has been made to separate the various changes which may occur from colon bacillus infection of the urinary tract from any other part of the body. Let me utter a word of caution here: I find that some practitioners are colon bacillus infection mad. While colon bacillus infection of the urinary tract is frequent, the number of individuals who suffer from it, as manifested by symptoms, are very few. The longer I study it, the more I am convinced that only a small percentage of people suffer from symptoms of infection of the colon from this bacillus; when such is the case, there is usually some morbid anatomy associated with the urinary tract, or defective drainage, such as failure to empty the bladder, or a defect in the passage or some nervous lesion of the body, which prevents good drainage of the bladder; or there is long-standing infection, such as chronic prostatitis, due to the gonococcus. When the colon bacillus is present in the urinary tract, it is said that it is apt to drive out other bacteria. That may or may not be true. It is a mixed infection, and it becomes pathogenic and aggravates the symptoms due to some other organism. I believe that it produces many systemic effects when it is there, but I do not believe that it produces any more systemic effects than some other organism in the urinary tract, nor any more than some other organisms in a focal infection elsewhere in the body. Physicians must look into this infection more than they have in the past.

I do not know whether or not this infection will produce thrombosis of the vessels. No attempt has been made to classify the results of such infections, whether local or systemic. With regard to leucorrhea occurring in young girls as the result of colon bacillus infection, I should say that the specificity of the colon bacillus as causing this infection is debatable.

Treatment of Pott's Disease

DR. BRAINERD HUNT WHITBECK, New York: The duration of treatment of Pott's disease depends on its location and extent. Even in disease high up, presenting little or no deformity, at least two years of constant fixation should be the rule. In uncomplicated disease of the dorsal and lumbar regions, four or five years are required. Of course, the patients with no deformity would require support for a shorter time than those with deformity, for in the latter cases the deformity often shows a tendency to increase even years after the disease has become quiescent. It is wise, therefore, to continue the support for several months after all signs of disease have disappeared, and then to leave off the brace or jacket at night first, and then for a part of the day. A good indication for removing support is the disappearance of muscular spasm, which is the last symptom to disappear. Even after several years of apparent cure, recurrences sometimes take place.

Appendicitis in Children

DR. CHARLES N. DOWD, New York: The diagnosis of appendicitis in children is complicated by many factors. It is difficult or impossible to obtain a clear statement of symptoms or an accurate localization of pain, and symptoms which guide us in adults in young children are frequently due to other causes than appendicitis. Children as well as adults give localized rigidity, and its existence must be the main guide in making a diagnosis of appendicitis. The other symptoms are usually also present, and they come in the sequence given by Murphy, but for children they are to be considered as indications to look for rigidity, as guides in part rather than as independent diagnostic features. When abscess formation has occurred, tumefaction is added to the local tenderness. Since the abdomens of children are small and their appendices often relatively long, sensitiveness at a distance from McBurney's point is more common than in adults. Several conditions may easily be mistaken for appendicitis, and among them may be mentioned beginning pneumonia, general peritonitis, tubercular peritonitis, pneumococcus peritonitis, diffuse gonococcus peritonitis, foreign bodies, etc. Many authors have referred to the difficulty of distinguishing appendicitis from hip disease. I have seen one case of acute suppurative coxitis in which the diagnosis could not be made before operation. Diagnosis in children is much more difficult than in adults, but it is not so complicated as a long list of difficulties would indicate. It can generally be made by due consideration of the muscle rigidity and tumefaction and the symptoms which precede and accompany it, according to Murphy's schedule. An important element in determining the success of treatment is simplicity of operation, that is, the incision should be made well to the side, the appendix removed when practicable and the local abscess cavity, if there be one, drained, but the general peritoneal cavity should be left alone, and the intestines not manipulated or disturbed.

Masked Appendicitis

DR. GEORGE E. BREWER, New York: I have no explanation to offer or theory to advance why a chronic lesion of the appendix should manifest itself so frequently by functional disturbances in a remote portion of the gastrointestinal tract or in other viscera. Neither have I any explanation of the fact that definite inflammatory changes are so frequently found in the appendix without a history of some previous acute attack. For many years I refused to operate in such cases, unless I could elicit a history of an acute lesion, believing that these chronic changes could not occur except as a result of acute

infection. Increasing observation, however, has convinced me of the error of this view, for during recent years many cases have been observed with gross, easily demonstrable evidences of chronic inflammation without the slightest history of an acute infection.

Conditions Simulating Appendicitis

DR. A. B. JOHNSON, New York, drew the following conclusions:

1. A large number of conditions may simulate appendicitis. 2. In many of them a careful study of the past history and of present signs and symptoms will render a differential diagnosis possible. 3. In acute cases, with an imperfect history and inability to observe the patients during the earlier hours of the disease, an accurate diagnosis may be impossible. This will be especially true of (a) perforating lesions of the alimentary tract other than appendicitis; (b) of some affections of the tube and ovary on the right side; (c) cases of well-developed diffuse purulent peritonitis from any cause; (d) among the erythema group Henoch's purpura, with abdominal symptoms may so exactly simulate acute appendicitis that no differential diagnosis is possible during the early hours of the disease.

When to Operate in Appendicitis

DR. JOSEPH A. BLAKE, New York: I group cases into those observed in the first twelve hours; in the second twelve hours; in the second twenty-four hours, and those observed from forty-eight hours on. In the first twelve hours it is difficult or even impossible to tell the exact condition of the appendix. In most cases the same conditions prevail during the second twelve hours as have just been outlined for the first twelve hours of the disease. In some cases, however, necrosis will have taken place and infection of the peritoneum will have commenced. When this occurs, rigidity becomes manifest. The pathologic process, however, is still confined in the great majority of cases to the immediate vicinity of the appendix, and operation should be immediately performed before infection of the peritoneum becomes established. In the second twenty-four hours, in the severer cases, necrosis of the appendix and infection of the peritoneum are usually well established. Ileus and meteorism commence and the patient begins to show the effects of a serious infection. Diversity of opinion as to the proper time to operate exists in the period comprised in the third, fourth and fifth days of the disease. It is generally considered to be the most dangerous period for operation, for the mortality following operation is greater than when done in the preceding days. There has been, therefore, a disposition on the part of many to tide the patient over until localization—abscess formation—has taken place. I am not convinced that this is the correct view to take, notwithstanding the favorable reports of those who employ the Ochsner or waiting treatment. I do not think it is correct to say that the Ochsner treatment stops extension and produces localization in all cases. I have employed it carefully in several advanced cases that seemed to me to be poor operative risks, and while some of the symptoms have abated, there has always been an increase in the subjective manifestations, and I have been constrained to operate under more unfavorable conditions. The mortality of late abscess operations is very high. The patients may not die immediately after the operation, but complications, such as sepsis, secondary abscesses, and obstructions are common, and carry them off at a later date.

Discussion on Appendicitis

DR. EDWIN MACDONALD STANTON, Schenectady: Of 274 patients with appendicitis observed by my associate and myself, 117 were operated on during the acute stage of the disease, and of this number we have had 5 deaths, a mortality of 4.2. In analyzing our results some time ago I found that most of the trouble came in these cases at forty-eight hours from the onset of the attack, when we thought that by making a small incision and relieving tension we might shorten the convalescence and save the patients a long stay in the hospital from sepsis, etc. But these cases we have trouble with. All patients put on the Ochsner treatment have done well. The improvement in the physical signs has been just as rapid as in the cases in which we have operated, and the patients are well and alive to-day.

DR. ROBERT T. MORRIS, New York: In children we have the A, B, C of appendicitis diagnosis, namely, AA, acute attack; CC, colic and constipation. Tenderness or hypersensitiveness at the site of the left group of lumbar ganglia is a distinctive feature in diagnosis. Pneumonia may be mistaken for appendicitis. I have had one such case in which I was misled. With pneumonia in the first stage, if there is no hypersensitiveness on deep pressure at the site of the right lumbar ganglia, look for something else than the appendix for the irritation. Tuberculous peritonitis in children is sufficient excuse for operating, and in some of these cases the appendix may be at fault. I have not worked up the point in reference to tenderness of the right group of lumbar ganglia in coxitis, although I believe that is important. The blood count is apt to be misleading in these cases of acute infection. The Ochsner treatment simply means preparation for operation.

DR. A. JACOBI, New York: Dr. Brewer has told us that he has made several mistakes in diagnosing the class of cases under consideration. In many instances the diagnosis is not made accurately even by eminent surgeons. If we could have statistics of mistaken diagnoses, it would help a good deal, and it would justify the mistakes that are made by general practitioners. At a session of the American Medical Association, held at Atlantic City, when the difficulty of making an accurate diagnosis of appendicitis in children came up, I reported a case in which half a dozen eminent physicians were called in consultation, and the only man who insisted on operation was a physician, not a surgeon. Operation was refused. The patient died, and autopsy revealed a general septic peritonitis, with perforation of the appendix, and a large amount of pus in the peritoneal cavity. I have frequently found the diagnosis of appendicitis difficult to make in children. Small children are much disposed to appendicitis, and we should not forget that there is a great deal of difference anatomically between the small infant and the adult. The small infant has a great many more lymph vessels, lymph ducts and lymph bodies than the adult. Moreover, there is plenty of opportunity in their appendices for accumulation of these very small lymph bodies. The length of the appendix in a small child is about one-tenth the length of the colon in that same child. In the adult, the length of the appendix is about one-twentieth the length of the colon. The appendix is more funnel-like in the child, and in a great many cases behind the funnel there is a contraction, so that when there is a foreign body in the appendix in the shape of mucus or other material it cannot get out. There are many reasons why small children should have appendicitis. If the masters of surgery will teach general practitioners how to make perfect diagnoses, there will not be so many chances for blaming us for not calling them in to operate more promptly. The fault does not always lie with the general practitioner.

DR. WILLIAM W. SKINNER, Geneva: There is one point in diagnosis which has helped me in many cases. If one carefully observes the skin over the entire abdomen, especially by stretching it slightly in different directions to obliterate the little corrugations which render the skin partially opaque, thus increasing its translucency, it will be found over the inflamed appendix that the veins are darker, as compared with the veins in other regions of the abdomen. The veins which are particularly affected are those just internal to the anterior superior spine of the ilium, running upward and slightly inward, almost parallel with the outer border of the rectus muscle. This sign alone has enabled me many times, in the absence of definite signs of localized tenderness, rigidity, and the other classical signs, to make a differential diagnosis between pelvic inflammation and inflammation of the appendix.

Surgical Considerations of Acute Diffuse Phlegmonous Gastritis

DR. RICHARD WARD WESTBROOK, Brooklyn: This disease is rare; it is a streptococcus infection of the stomach wall analogous to cellulocutaneous erysipelas. No authentic case of recovery has been reported so far. The case of recovery reported by Mikulicz is not to be taken as correctly diagnosed. He reported a case that came under his own observation, the first to be diagnosed at operation. He believes that early partial gastrectomy is a possible means for operative success.

Medicolegal

Admissibility of Evidence of Declarations and Acts of Patients

The Court of Appeals of Kentucky says, in Chesapeake & Ohio Railway Co. vs. Wiley (121 S. W. R., 402), a personal injury case brought by the latter party, that it is a familiar rule of evidence that statements of a party not under oath, and which are favorable to his cause, are not receivable. They are deemed self-serving, and are known to be unreliable evidences of the truth in general. His conduct of the same character, done for the same purpose, is, for the same reason, not receivable in evidence. The question is not whether what he said was true, or whether what he did was a natural, unstudied act, but whether the principal fact may be proved in that way. Illustrating by the case at the bar, that the plaintiff was sleepless, nervous, weak, and had pains, might all be proved, but the question was, how?

Hearsay evidence is generally irrelevant; but there are many exceptions to the rule. The exceptions are in the main based on the experience of jurists as well as of men in general that in the particular matter the statement was made under such circumstances as warrant a belief in its truth.

One of the exceptions to the general rule is that in a case where pain, or a state of health, is a fact at issue, the natural, spontaneous, and usual expressions indicating pain and suffering may be shown, as generally that is the only way in which, aside from the testimony of the sufferer, the existence of pain may be proved. So of other mental states; but it is the invariable rule that the expression should accompany immediately and naturally flow from the pain then being suffered, otherwise it becomes a narrative of a past event, and is not receivable in evidence in court to prove that the pain had existed. Such expressions or manifestations of pain or any mental state which is at issue in the case may be shown by any observer, whether physician or not.

Another exception, though it belongs to the same class, is that where one suffering from an ailment seeks medical assistance or advice, it is competent to show what he then told his physician as to his symptoms, but never as to the cause of an injury, because it is believed that the motive for telling the physician the truth as to his sensations of pain, suffering, or history of his ailment, so as to enable him to relieve the suffering, or save the life of the patient, is greater than could be the motive of making a merely self-serving statement to be used in his behalf by the man in some other affair. This allows more than if the same statement had been made to one not a physician or nurse, from whom the patient was expecting aid or physical relief, because in the instance of the physician or nurse there is present a motive for telling the truth that is not present when the same matter is told to one from whom the relief is not sought. If the act or statement is the natural, ordinary, and probable expression of one in that condition, it is deemed to be probably true, and is receivable as evidence of the state which it indicates, and because from the nature of the matter it may be the only evidence of the fact.

There is another ground on which the evidence of the character discussed (that is exclamations indicating pain, or emotion, and declarations as to sensations, as well as the conduct of a person whose pain or sickness is at issue) is receivable; that is, when it is part of the res gestae, or essential elements of the case. If it is relevant to show the physical condition of the person, such as that he was injured or made sick, not only what a witness has seen and testifies to is relevant, but the exclamations or statements of the person which are the natural spontaneous expressions ordinarily made by one who suffers such pain or illness, are receivable as verbal acts; and on the same principle, his actions, such as naturally and spontaneously result from such injury or illness, may be proved. They are the best evidence obtainable of his condition, and in many instances the only evidence of it aside from his own testimony, should he testify. They may be even more convincing evidence of the main fact than the opinion of an observer, or even the opinion of the declarant himself.

But this court, to which the question was presented for the first time in this case, is against extending the exception to the general rule of evidence which excludes hearsay to include the statements and conduct of a party not made under the conditions which have been discussed above. More particularly, it holds that it was error to admit the testimony of three physicians who examined the plaintiff, but did not treat him, when none of the physicians dissociated his opinion based alone on objective evidences in the patient as to his condition from what he had received from the plaintiff of a character held inadmissible.

Mental Weakness Due to Physical Infirmity is Not Mental Unsoundness—Condition at One Time Not Evidence as to Another

The Supreme Court of Iowa says, in the will case of Speer vs. Speer (123 N. W. R. 176), that the disease of which the testator or maker of the will died was described by the witnesses as bronchopneumonia with pleurisy, with which he had been seized about five days before the will was executed, and of which he died the second day after its execution. As his sickness was wholly physical, proof of his condition as to lethargy, suffering, or unconsciousness on days preceding or following the execution of the will was entitled to very little consideration; the sole question being whether at the time of its execution he was conscious and able to understand what he was doing. Only two of the witnesses saw him on the day when the will was executed. Neither of them was present at the time of its execution, or attempted execution. They spoke of his physical weakness, his failure to recognize them, and his apparent inability to converse as to his condition or his affairs. The court is unable to find anything in the record substantially tending to show that the testator may not have been in such condition when the will was in fact executed that he could understand what he was doing and express his deliberate purpose as to the disposition of his property.

Mere mental weakness, not due to mental disease, but solely to physical infirmity, does not constitute mental unsoundness. On the other hand, it is well settled that there may be testamentary incapacity without actual insanity or unsoundness of mind. But mere weakness of mental power will not render a person incapable of executing a will. It is not necessary that the testator should be competent to make contracts or transact business. Old age and failure of memory do not necessarily take away a testator's capacity to dispose of property.

Statements of a witness as to the testator's condition, relating to the day following that on which the will was executed, as that he "seemed to be suffering," "seemed to be in a stupor," and did not talk to her that day "because he was too sick," could not, under the circumstances of the case, be considered as showing what his condition was on the preceding day. He was suffering from a progressive illness, and he may well have been in a much worse condition than when he signed the will. Likewise, what a witness said as to the condition of the testator two days before the will was executed could under the circumstances have been entitled to no weight, for, as already said, the testator was seriously sick, and there was no presumption that his mental faculties, as affected by such sickness, were not in entirely different conditions on those two days. In short, here was a case where a man suffering from disease, but of perfectly sound mind, so far as the evidence tended to indicate, was at times conscious, recognizing those about him and fully aware of his conditions and surroundings, while at other times he was in a stupor or apparently asleep, and the court thinks that the opinion of a witness based on the testator's condition at a time other than that at which the will was executed would have no probative force with reference to his condition when the will was made.

Commission of Crime of Rape by Boy Under Fourteen

The Supreme Court of Mississippi reverses, on the appeal of Geason vs. State (50 So. R. 488), a conviction of a boy under 14 years of age of the crime of rape. The ground for this was that there was no evidence of the boy's mental capacity to entertain a criminal intent, or of his physical ability to commit the crime of rape. A criminal intent, the court says, is an essential element of every crime. Such an intent cannot be entertained by an infant until it has developed sufficient intel-

ligence and moral perception to enable it to distinguish between right and wrong and to comprehend the consequence of its act. Under the age of 14, an infant is presumed not to have reached this state of development, and to be incapable of entertaining a criminal intent. But as in fact the age at which children reach this state of development varies, this presumption between the ages of 7 and 14 is only presumptive, and can be overcome by proof. Under the age of 7 this presumption is conclusive. In the crime of rape, in addition to mental capacity to entertain a criminal intent, there is also involved the element of physical ability to commit it, and this physical ability cannot exist until the infant has arrived at the age of puberty. In most jurisdictions, an infant under the age of 14 is conclusively presumed not to have arrived at the age of puberty, and hence incapable of committing rape. But the rule, and this court thinks the safer rule, in some jurisdictions is that this presumption is only a prima facie one, and can be overcome by proof.

Saving Clause Necessary for Completion of Prosecutions After Repeal of Law

The Supreme Court of Washington says that the defendant in the case of State vs. Hanover (104 Pac. R. 624) was charged with practicing medicine without a license, convicted and sentenced to pay a fine. The prosecution was under the act of 1890. The information alleged that the offense was committed on Oct. 26, 1908. The trial was had in the month of April, and the judgment was entered on May 1, 1909. But between the date when the offense was charged to have been committed and the date of the trial, the state Legislature passed a new act regulating the practice of medicine and surgery, repealing prior acts, which new act took effect on its approval, namely, March 18, 1909. This act, however, contained no saving clause for the prosecution of offenses committed under the old law, and therefore it is held that, under well-settled principles of law, there was no authority at the time of the trial for the prosecution of the defendant on the offense charged, and the judgment rendered against him must be reversed. As said by this court in another case, the repeal of a statute pending a prosecution thereunder, without any saving clause as to such prosecution, will prevent its being further prosecuted, and this rule applies as well after judgment and sentence, pending an appeal duly taken therefrom, as before the final determination in the trial court.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York

February 12

1 *Pneumonia in the Aged, Treated with Pneumococcus Vaccine; Recovery. H. A. Craig, New York.
2 Hyperchlorhydria. F. B. Turck, Chicago.
3 Rôle of Cerebral Lesions in Infancy and Childhood in the Causation of Epilepsy. M. L. Perry, Parsons, Kan.
4 Noma Followed by Cicatricial Contraction of the Jaws. W. C. Lusk, New York.
5 *Quick Method of Examining Stools; its Significance for Diagnosis and Treatment of Some Intestinal Disorders. M. Gross, New York.
6 Early Diagnosis of Carcinoma of the Sigmoid. G. A. Friedman, New York.
7 Examination of Urine at the Bedside. G. Richter, St. Louis.
8 *Letters to a Neurologist. J. Collins, New York.

1. **Pneumonia Treated with Pneumococcus Vaccine.**—Craig says that practically all the inmates in the Sailors' Snug Harbor Hospital are over 60 years of age, with the result that the usual mortality from pneumonia has been 66 per cent. Recently, however, all lobar pneumonia cases have been treated with an autogenous vaccine obtained from the pneumococci in the patients' sputum. Since this treatment was introduced there have been 8 cases; the patients varied in age from 66 to 83 years, and all recovered.

5. **Quick Method of Examining Stools.**—Gross emphasizes that it is important to examine the stools after a mixed diet, after the use of castor oil, and after a test diet used for three days, in order to compare results. The normal stool is light brown, odorless and neutral, or slightly alkaline. Fatty stools are light, foamy and acid. Fat drops show, and fatty acids in crystals are seen, besides soap crystals. These are found in icterus, disturbed pancreatic secretion, and changed intestinal secretions. Meat stools show fibers and light yellow muscle remnants. Connective tissue stools show white particles. Mucus may be seen in transparent spots and masses. This always indicates irritation and catarrh. Large deposits may be referred to the large intestine; finer ones come from the small intestine. Carbohydrate stools are of a sour, pungent odor, and acid reaction. The starch is found in filled cells or granules. They are colored blue by iodin. Bacteria are present in large numbers. These show disturbances of the small intestine and pancreas. Reagents are given for testing the different kinds of stools. The author treats all these disturbances by easily digestible food with little irritating material, avoiding the materials that are badly digested.

8. **Letter to a Neurologist.**—Collins receives a letter from a self-centered woman who has dwelt on a supposed injury from childhood, allowing it to separate her from her parents and home, and magnifying it until it has impaired her powers of work and of happiness. He prescribes for her a life for others and the forgetting of her injuries. Another element in his prescription is a happy marriage and energies bent on the care of her household.

Boston Medical and Surgical Journal

February 10

9 Prevention and Inhibition of Peritonitis, with Special Reference to the Harm Done by Cathartics in Incipient Peritonitis. A. J. Ochsner, Chicago.
10 *Suggestion: The Mainspring of Hypnotism and Psychotherapy. J. S. Lewis, Buffalo.
11 The Falsetto Voice and its Relation to Spastic Aphonia. A. Myerson, Boston.

10. **Suggestion in Therapy.**—The author claims that the average physician may employ suggestion at its full value without charlatanism, without mysticism, without deception, in common-sense suggestive treatment. The patient who leaves a hospital with the delusion that he has been drugged to sleep by virtue of a capsule containing powdered sugar is in a sense no better off than the one who leaves with a discharging sinus or a crutch. Lewis says that it should be our endeavor to supplant the bread pill, the "bluff wafer" and the sterile water hypodermic injection by verbal suggestion, or, if time be lacking, use these helps only until such time as we can tactfully give to the patient the key to his functional disorder. Lewis would use these means to distinguish between what is functional and what is organic. But once the condition is clear, the patient should be given the use of that power with which suggestion has invested the bread pill or the water "hypo." For the competent, there is still hypnotism when the weaker suggestion fails. Is it vain to hope, asks Lewis, that this generation shall see many hypnotists in this country, who, like anesthetists, devote their time to this specialty and in particular to the difficult cases? There is need of men who can write and talk intelligibly to their colleagues.

New York Medical Journal

February 12

12 Contractile Elements in the Connective Tissue. J. Wright, New York.
13 *Gall-Stones with Reference to Cancer of the Gall-Bladder. A. Vander Veer, Albany.
14 Diseases of the Colon. E. Martin, Philadelphia.
15 Medical Aspect of Diseases of the Colon. L. Weber, New York.
16 *Problems Involved in a Case of Typhoid in Pregnancy. S. M. Brickner and B. S. Oppenheimer, New York.
17 Cancer of the Intestine. J. G. Sherrill, Louisville, Ky.
18 Gall-Stones as an Etiologic Factor in Chronic Pancreatitis. J. A. Kelly, Philadelphia.
19 Perforation and Rupture of the Gall-Bladder. F. T. Merriwether, Asheville, N. C.
20 *Congenital Absence of the Gall-Bladder. J. J. Hoffman and J. A. Jackson, Indianapolis.

13. Abstracted in THE JOURNAL, Jan. 15, 1910, p. 233.

16. **Typhoid in Pregnancy.**—The case reported by Brickner and Oppenheimer was a normal pregnancy, with the exception of an intercurrent typhoid. Prochownic diet was given. Pre-

mature labor took place at 8 months. It was a dry labor, necessitating the use of low forceps for a prolonged second stage. From the obstetric standpoint there are two elements in the case aside from the technical interest, which are of special moment. The first of these is the fact that despite continued high temperature, the patient did not spontaneously miscarry, although for a few days in the early part of her illness, she had frequent contractions of the uterus. The other point of interest lies in the demonstrated fact of the impermeability of the placenta to the typhoid toxins. Although the mother's blood at the moment of birth was distinctly positive to the Widal reaction neither the placental blood nor the infant's blood gave any reaction.

20. **Congenital Absence of the Gall-Bladder.**—In this case, the gall-bladder was absent, but the common duct was continuous from the intestines into the liver substance, passing through the normal location of the gall-bladder. In the region of the gall-bladder it was wide and tortuous. By careful dissection it was seen to divide and subdivide. One of the subdivisions of the duct led into a globular mass, on the inferior surface of the upper portion of the left lobe near the œsophageal region, size of an orange, which was an abscess filled with about three ounces of grayish pus. The walls were irregularly ragged, having a fibrous base. It also contained some degenerated material. The common duct measured at the mucous surface of the duodenum two centimeters in diameter; at the outer surface of pancreas it measured four centimeters.

Northwestern Lancet, Minneapolis

February 1

21 *Unnecessary Blindness. F. C. Todd, Minneapolis.
22 *Etiology and Prophylaxis of Ophthalmia Neonatorum. J. C. Litzenberg, Minneapolis.
23 What Cases of Tuberculosis are Suitable for Treatment at the State Sanatorium? W. J. Marcley, Walker, Minn.

21, 22. Abstracted in THE JOURNAL, Nov. 20, 1909, pp. 1849, 1850.

Medical Fortnightly, St. Louis

January 25

24 Work in the Laboratories of Europe. L. H. Warner, Brooklyn.
25 Recent Advances in the Surgery of the Accessory Sinuses of the Nose. R. H. T. Mann, Texarkana, Ark.
26 *Acquired Syphilis Occurring in an Hereditary Syphilitic. C. D. Scott, St. Louis.

26. **Acquired Syphilis in a Hereditary Syphilitic.**—The patient in question suffered at the time of birth and up to a period (the exact date of which it is impossible to determine) from hereditary syphilis as evidenced by the characteristic tibial deformity (saber tibia), enlarged radial heads, Hutchinson's teeth, stunted growth; and perhaps by the family history, which although not yet fully investigated, discloses the facts that a brother and sister died of some unknown cause within a few days following birth, and that his living brother, in childhood was affected with similar (saber) tibiæ, from which, at present, he has in a large measure recovered. The patient, at some period, at present unknown, emerged from the immunity conferred by his congenital syphilis, and in time sustained a second infection with syphilis, this time with the acquired type, as manifested by the orderly appearance of a characteristic initial lesion, generalized adenopathy, papular eruptions, pharyngitis, and a mucous patch on the upper gum, from which *Spirochæta pallidæ* were demonstrated. These conclusions being accepted, Scott believes he is justified in stating that a complete recovery from hereditary syphilis has occurred.

Journal of Nervous and Mental Diseases, Lancaster, Pa.

January

27 *Errors in Diagnosis of General Paresis. E. E. Southard, Boston.
28 Type and Distribution of Sensory Disturbances Due to Cerebral Lesion. C. D. Camp, Ann Arbor, Mich.
29 Tumor of the Pons. P. Zenner, Cincinnati.

27. **Errors in Diagnosis of General Paresis.**—Two hundred and forty-seven cases of insanity were observed by Southard in the Danvers daily clinics and later autopsied in the pathologic laboratory during the years 1904 to 1908 inclusive. Sixty-one of these 247 cases, namely, 25 per cent., were diagnosed with more or less certainty as cases of general paresis; 41 of these 61 cases were regarded as clinically certain, since every one present at the clinic committed himself to the diagnosis. Seven of the cases may be regarded as clinically probable, since the majority of staff members favored the diagnosis. Thirteen cases are classified as clinically dubious, since, although the diagnosis of general paresis was prominently considered, other diagnoses were also possible. The clinically dubious group includes also cases in which diagnostic doubt was expressed by several staff members.

Seventy per cent. of the cases in which general paresis was certain, probable, or even prominently considered, proved histopathologically cases of general paresis. Less than 1 per cent. of a series of 186 cases in which the diagnosis of general paresis was not considered, proved to be instances of general paresis. The lesions probably responsible for the errors in diagnosis were: (a) meningomyelitis and subcortical encephalitis (luetic?), one case; (b) tabes dorsalis and non-paretic cerebral disease, two cases; (c) arteriosclerotic brain disease with severe cerebellar involvement (dentate nuclei), two cases; (d) cerebral sclerosis (type, perivascular, gliosis), one case. Although at first sight a probable error of 15 per cent. in the diagnosis of general paresis might suggest difficulties in possible medicolegal cases, it is obvious that, were the diagnosis confined to "incurable insanity" or even to "organic brain disease," the error would disappear. However, two cases proved to be general paresis (on the plasma-cell criterion) in a series of 186 cases similarly examined in which the diagnosis of general paresis was not considered. Southard suggests that improvements in our diagnostic ability could perhaps be introduced by lumbar puncture and cytologic examination in a greater proportion of cases.

Woman's Medical Journal, Cincinnati

January

30 Genesis of Genius. L. G. Rabinovitch, Paris.

Journal of Ophthalmology and Oto-Laryngology, Chicago

January

31 Impressions of a Visit to New York. J. S. Fernandez, Havana, Cuba.
32 Extirpation of the Tonsil. M. Iverson, Stoughton, Wis.

Wisconsin Medical Journal, Milwaukee

January

33 *Relations of Occupations to Medicine. D. L. Edsall, Philadelphia.
34 *Vaginal Hysterectomy; New Operative Technic to Establish a Sound Pelvic Floor and to Prevent Cystocele. R. Elmergreen, Milwaukee.
35 *Resection for Tuberculosis of Hip-Joint. H. Greenberg, Milwaukee.
36 *Detection of Tubercle Bacilli in the Blood by Rosenberger's Method. M. P. Ravenel and K. W. Smith, Madison.

33, 35, 36. Abstracted in THE JOURNAL, Aug. 21, 1909, pp. 648, 649.

34. This article appeared in THE JOURNAL, Oct. 23, 1909, p. 1355.

United States Naval Medical Bulletin, Washington, D. C.

January

37 *Chronic Non-Suppurative Osteoplastic Periostitis of Traumatic Origin. G. Pickrell and L. M. Schmidt, U. S. Navy.
38 Shooting Glasses for Riflemen. C. S. Bogert, U. S. Navy.
39 Suggestions on Taking Finger Prints. J. D. Hall, U. S. Navy.
40 Meat Poisoning in the Navy. L. W. Curtis, U. S. Navy.
41 *Runner's Cramp: A Peculiar Occupation Neurosis. L. M. Schmidt, U. S. Navy.
42 Venereal Prophylaxis. W. J. Zalesky, U. S. Navy.
43 Medical Conditions in the Fiji Islands. R. A. Bachman, U. S. Navy.

37. **Chronic Non-Suppurative Osteoplastic Periostitis.**—Three cases of this affection are recorded by Pickrell and Schmidt which were due to a single severe crushing injury. The tumors produced varied greatly in size and shape. In one the summit was broad and extended far beyond the base which formed a pedicle and gave the entire mass an anvil appearance. In another, the tumor was shaped like a thick piece of rope, with ridges like strands of rope twisted one about the other. The third was an even, oval enlargement. The periosteum in each case was thick, adherent and very vascular. The surface of the bone in two cases was extremely irregular and in one comparatively smooth.

The internal structure of the tumors varied greatly. The large anvil-like growth had an outer hard compact shell of

about one-eighth inch, inside of which was a structure-like cancellous bone which contained numerous cavities filled with dark bloody fluid. This part of the growth was very vascular and bled freely. Near the base of this growth was another portion of compact tissue which also had the shape of an anvil. The other two tumors were of a dense compact structure throughout. The microscopic picture of the first growth in each case was similar. It showed areas of fairly typical bone interspersed with areas of round cells. These round-cell areas could not be distinguished by the pathologists from the round cells of sarcoma and in each case were classed as suspicious, and radical operation advised in case of return of the growth. The microscopic picture of the recurrences depended on the disposition made of the periosteum at the previous operation. Where the periosteum has been preserved and replaced, the recurrent growth had a structure similar to that of the first. Where the periosteum had been destroyed the return growth had the microscopic structure of lime infiltrated scar tissue.

In all three cases the original injury to the thigh was severe and temporarily disabled the victim. In all cases prompt and almost complete recovery from the concussion followed. Only after some weeks or months did there occur local symptoms to indicate that anything more serious than a bad bruise had resulted from the impact. Pain began to be noticed in the affected thigh. It was worse at night and of a dull, boring character. A local tenderness appeared. Walking began to produce discomfort and there was associated a limping gait. The general health in all patients became impaired. In all cases after removal of the first growth there was complete relief of pain, and each man began to gain in weight and the pallor disappeared. With the return of the tumor, weight was lost, pain, especially at night, was severe, and the former pallor returned. The authors advise early operation to limit the extension of periosteal involvement, and that the periosteum involved should be destroyed completely. Iodin and carbolic acid are not sufficiently destructive and the actual cautery should be used. Every effort should be used to prevent accumulation of blood clots adjacent to the bone, following operation.

41. **Runner's Cramp.**—While attempting his daily practice for a mile run the patient experienced pain across the arches of both feet; he continued running that day, but the pains became worse and when he had completed about a mile he could no longer stand on his feet, and was compelled to sit down, still suffering severely from pain across the arches and now extending to the anterior part of the legs. He discontinued running for the day. On rising, next day, the pains had subsided and he had no trouble in walking; when he attempted to run, however, every attempt to rise on the toes was accompanied by severe pain similar to that of the previous day; there was still no pain while walking.

About the third day, when attempting to run, a severe cramp occurred in the right leg, involving the calf and toes. The cramp soon disappeared but soreness persisted for several days. He steadily developed more pain on attempting the toe position, and finally mild pains persisted during the periods of rest; when he remained entirely off his feet for a day all symptoms subsided. The toes were dorsiflexed, so that no part of them touched the floor when the patient walked; the extensor tendons of the toes were very prominent and evidently held the toes in this awkward position; the feet were well arched; a very thick callous existed under the ball of each foot. Rest in bed for two days caused all pain to disappear, but the toes were still hyperextended. Soreness in the arch of foot persisted for some time, but did not interfere with walking. Eventually recovery was complete.

Therapeutic Gazette, Detroit

January

44 Recognition and Treatment of Malignant Disease of the Uterus. E. E. Montgomery, Philadelphia.
45 Treatment of Gastric Complications of the Earlier Stages of Pulmonary Tuberculosis. R. G. Torrey, Philadelphia.
46 Advantages of Alypin Anesthesia. F. M. Fernandez, Havana, Cuba.
47 Gastroptosis. A. M. Calloway, Asheville, N. C.
48 Surgical Treatment of Incomplete Abortion. J. E. Cannaday, Charleston, W. Va.

Surgery, Gynecology and Obstetrics, Chicago

January

49 *Serotherapy of Purulent Processes. E. Gergö, Budapest, Hungary.
50 *Production of Shock by Electric Stimulation of the Abdominal Sympathetic Ganglia. W. B. Fowler and R. N. Parker, Chicago.
51 *Incontinence of Urine Following Labor. G. B. Miller, Washington, D. C.
52 *The Subinvoluted Uterus. R. R. Smith, Grand Rapids, Mich.
53 Multilocular Cysts of the Jaws. D. D. Lewis, Chicago.
54 *Diagnostic Value of Distention of Renal Pelvis Through the Ureteral Catheter. L. Freeman, Denver.
55 *Premature Menopause. M. M. Stark, New York.
56 Changes in the Normal Endometrium During Menstrual Life Based on Study of 100 Cases. C. C. Norris and F. E. Keene, Philadelphia.
57 Pulsating Exophthalmus: Ligation of Internal Carotid. A. E. Halstead and A. J. Bender, Chicago.
58 The Saccular Theory of Hernia. A. MacLennan, Glasgow, Scotland.
59 *Noma. M. F. Porter, Fort Wayne, Ind.
60 Bier Treatment in Tuberculous Joint Disease. L. W. Ely, New York.
61 History and Technic of Extraperitoneal Cesarean Section. T. J. Doederlein, Chicago.
62 *Treatment of Abortion. H. M. Stowe, Chicago.
63 Plastic Surgery of Abdominal Wall. R. C. Coffey, Portland, Ore.
64 Unusual Case of Congenital Malformations. H. L. Kretschmer, Chicago.
65 Injuries of the Elbow Joint. J. E. Owens, Chicago.
66 Bullet Extracted from Hip-Joint. E. H. Ochsner, Chicago.

49. **Serotherapy of Purulent Processes.**—One hundred and sixty carefully observed cases form the basis of Gergö's communication. In the treatment of abscesses of the soft parts (128 cases) repeated injections and aspirations of the abscess cavity with serum are made, thereby thinning the thick pus and allowing a more thorough cleansing. The abscess cavity is then injected with clean serum—a quantity amounting to from one-third to one-half as much as the aspirated pus. The point of puncture is then covered with gauze and adhesive plaster. Healing proceeds rapidly and definitely. In infiltrating suppurations or more diffuse inflammations, *e. g.*, felon, phlegmon, carbuncle, diffuse phlegmonous mastitis, etc. (16 cases), healing can be accomplished only after the infiltrating process has gone on to a well-circumscribed abscess. Otherwise, the only value of the method in these cases lies in the fact that wherever the serum comes in intimate contact with the wound, the secretion ceases, the exudate and necrotic tissue become separated within a few days, and the wound soon becomes clean. In bone suppurations (4 cases) the laying open of the bone focus followed by many weeks of progressive treatment with serum irrigations, serum packs, or serum injections resulted in nothing more than a cleansing of the soft parts of the wound. Bone fistulas (5 cases) are subject to the same criticism as bone suppurations. Fistulæ of the soft parts (7 cases) especially when they were large and superficial and therefore suitable for serum tamponade, soon showed a narrowing, a diminution of their discharge and a filling of the fistula with clean granulations.

50. **Shock by Electric Stimulation.**—Fowler and Parker found by experimentation that a dog by the loss of 2 per cent. of its body weight in blood is rendered susceptible to death when its abdominal sympathetic ganglia are stimulated with a 20 milliampere galvanic current. They offer the following explanation of the death of the animals: A dog has a limit of endurance and when that limit is exceeded he dies. While the loss of 2 per cent. of the body weight in blood is not sufficient to destroy the average dog, it so weakens him that the application of a moderate electric current to his abdominal sympathetic ganglia is sufficient to turn the balance in favor of death.

Their experience convinced them that undue manipulation of the abdominal viscera and exposure of the animal to cold during the operation makes for the same result. They believe that it is immaterial whether the method of weakening the animal is by means of peritonitis, hemorrhage, or any kind of trauma that produces the requisite shock, and that it is immaterial whether the final and fatal shock is from an electric current applied to the abdominal ganglia or to any other part of the body, or whether the shock produced in any other way, the result will be fatal when the dog's limit of endurance has been reached.

51. **Incontinence of Urine Following Labor.**—That the incontinence which comes on immediately after labor due to swelling, etc., of the urethra and bladder neck, as a rule, soon sub-

sides without treatment is Miller's experience. Later, he says, one should make a careful examination of all the pelvic organs, replace a retroposed uterus when necessary, hasten involution of the pelvic structure by douches, tampons, pessaries, etc. In persistent or increasing incontinence some operative procedure is usually necessary. The nature of the operation should depend on the condition of the urethra and bladder neck. The Frank operation, combined with an anterior and posterior colporrhaphy, in cases in which there is a relaxed and gaping vagina, and some appropriate operation for retroversion, when this exists, will, in Miller's opinion, cure the average case of incontinence coming on after labor, and of not too long standing. In cases in which there is a marked dilatation of the urethra of long standing, or cases in which from necrosis the muscular wall of the neck of the bladder and urethra are wanting, Miller found Gersuny's operation to offer the best hope of cure.

52. **Subinvoluted Uterus.**—Smith briefly sketches the life history of the uterine musculature; gives an outline of the pathology of subinvolution and the general plan for its treatment, and reports 23 cases treated by hysterectomy. Of the 23 patients, the youngest was 35, the oldest 55. Nine of the 23 were losing so much blood at or between menstrual periods as to be serious. Five had profuse flowing, enough to warrant active interference. In 9 the flow was practically normal, if present at all; they were suffering simply from the marked pelvic discomfort to which such patients are subject. In 12 of the patients the position of the uterus was practically normal; in 6 there was retroversion, in four there was some tendency to prolapse, in one there was a considerable amount of prolapse with retroversion, but the uterus was very large and this formed the chief indication for its removal. There was no mortality in this list nor unusual convalescence from operation. The patients have all been practically free from every symptom referable to the pelvis. Smith thinks that we have been too conservative with such patients, and urges that hysterectomy be done more frequently than is now commonly practiced. On the other hand, no hysterectomy should be done without careful weighing of every point *pro* and *con*. The things that have the most weight in Smith's mind are: (1) the long continuance of the symptoms; (2) severe loss of blood; (3) the non-relief by simple procedures; (4) the age of the patient; (5) the size and condition of the uterus.

54. **Diagnostic Value of Distention of Renal Pelvis.**—Freeman cites several cases in which this procedure justified itself. A woman was referred to him with a movable right kidney producing, supposedly, much disturbance in the right side which incapacitated her for her various duties. There seemed to be little, if any, question regarding the diagnosis; but, largely for the sake of mere experience, Freeman dilated the renal pelvis with a solution of boric acid. When the distention became great enough to produce pain this was totally different from that usually experienced by the patient, her habitual pain being lower down, in the region of the appendix. Hence Freeman concluded that the trouble was not in the kidney but in the appendix, this view being confirmed by subsequent operation.

In another case, a woman complained of a very annoying intermittent pain in the left iliac region, extending up into the back toward the kidney. A renal difficulty being suspected, the ureter was catheterized and the pelvis of the kidney distended with normal salt-solution. The pain produced was entirely different from her usual discomfort and was located in the back over the kidney itself. This resulted in a pelvic operation with the removal of a diseased tube and an ultimate cure.

Freeman says that as with other means of diagnosis, excessively nervous or hysterical individuals may be difficult to deal with, and it is possible that erroneous conclusions might be reached; but this does not occur often and affects the general usefulness of the procedure but little. With children many difficulties exist, relating to the use of the cystoscope, the impossibility of controlling the patients, and the unreliability of their statements. A woman had been excessively annoyed for a long time with pain rather low down in the right side of the abdomen, combined with irritation of the neck of the bladder. Examination of the urine, an *x*-ray picture of the kidney, and a skin test for tuberculosis revealed nothing of importance. She had been in the hands of several excellent physicians who had variously diagnosed ovarian trouble, a tubal lesion, and appendicitis, while one had frankly confessed himself completely at sea. Freeman dilated the renal pelvis, which contained vastly more than normal, and immediately all the symptoms were reproduced, just as they had always presented themselves, thus demonstrating the presence of intermittent hydronephrosis.

The technic of the procedure is simple enough and is devoid of danger, providing the ordinary rules of asepsis are observed. The end of the catheter must be inserted completely into the renal pelvis and not simply into the ureter. The solution must be warm and should be injected slowly so as not to cause renal colic prematurely. If the fluid is strongly tinged with methylene blue, the mouth of the ureter may be obscured through the cystoscope during the process of injection so as to make sure that too much of the solution does not escape around the catheter, which, however, is seldom the case. In injecting the solution, a syringe may be used with a metal plunger to facilitate sterilization, and with a small pointed tip that will fit accurately into the ureteral catheter. It should be of considerable capacity and graduated in cubic centimeters.

55. **Premature Menopause.**—Stark collected 59 cases in which the menopause set in from the ages of 17 to 30. Eleven of these cases were observed by Stark himself.

59. **Noma.**—Porter reports a case of noma that recovered without perforation. The patient, a girl of 15, was kept in bed with the windows wide open, and during the day she was kept on the porch. She was given a liberal diet and in addition to the regular meals she was given a glass of milk, with an egg and two drams of rum, three times daily. She was also given the juice of three lemons daily. Every three hours the mouth was washed with peroxid of hydrogen. Four injections of *B. fusiformis* were given. The ulcer extended until it reached the corner of the mouth, but in no other direction was there any extension of the nomatous process after she entered the hospital. Shreds of necrosed tissue were washed away or gently removed by the forceps daily. Forty-two days after the onset of the disease the girl was discharged with the ulcer entirely clean of necrosed tissue and rapidly healing.

62. **Treatment of Abortion.**—Particular attention is called by Stowe to the following points in the treatment of abortion: 1. The importance of treating all cases of uterine hemorrhage accompanied by intermittent pelvic pain in a woman of child-bearing age as acute abortion. 2. The value of absolute rest in bed in the treatment of threatened abortion until all pain and bleeding have ceased. 3. The necessity of saving as much blood as possible to avoid a long period of anemia and prostration. 4. The selection of cotton pledgets in lieu of gauze strips as material for vaginal tamponage. 5. The use of finger curettement and manual removal of uterine contents whenever possible. 6. The performance of Hoening's abdominovaginal compression when the conditions are present. 7. The difficulty of complete sterilization of laminaria tents. 8. The danger of perforation of the uterus with steel dilators and sounds. 9. The great danger of uterine perforation with the steel curette in acute abortion, and the value of the instrument in chronic abortion. 10. Curettement should be raised to the dignity and seriousness of a surgical operation and be performed under the same surroundings and with necessary equipment. 11. The importance of refraining from curetting after the complete emptying of the uterus. 12. The use of ergot after the uterus is empty. 13. Local interference in septic abortion when the infection is limited to the uterine cavity. Less tendency to interfere when the adnexa or peritoneum are involved in the septic process.

Journal of Advanced Therapeutics, New York

January

67 Treatment of Arteriosclerosis, or General Arterial Fibrosis with the D'Arsonval Current. J. C. Walton, Richmond, Va.

68 Treatment of Tuberculous Glands of the Neck by Roentgen Rays. F. A. Davis, Boston.

69 Radium Therapy in Inoperable Tumors. W. H. Dieffenbach, New York.

Dominion Medical Monthly, Toronto

January

70 What is Certified Milk? How it may be Obtained for Patients. H. T. Machell, Toronto.
71 Severe Tetanus; Recovery. A. Bell, Toronto.
72 *New Treatment for Abdominal Surgical Shock. J. R. Hopkins, Denver, Colo.

72. **Treatment for Abdominal Surgical Shock.**—The treatment advocated by Hopkins is said to be especially suitable for shock during the few hours or days following an abdominal operation, when the patient is not under an anesthetic, although it is probably beneficial when the patient is anesthetized, but not to so great a degree. It is described as follows: Take out two skin sutures as near the umbilicus as the wound will permit, then pry apart the continuous sutures in the fascia and peritoneum. One can then see if hemorrhage is present. This procedure is not difficult or very painful, because when patients are in shock they are more or less insensible to the causes of ordinary pain. Have ready very hot and cold normal salt solution; the reservoir should be equipped with four feet of rubber tubing, together with a glass tube or cannula six to eight inches long. Both rubber and glass tubes should have a diameter of from 1/3 to 1/2 inch. Place a quart of saline solution at 112 F. in a reservoir hung three feet higher than the abdomen. Have the wound held open; see that the tube and the cannula are full of the hot solution, then insert the long cannula beneath the omentum, if possible, pushing it upward so that the glass tube penetrates to the posterior peritoneum up behind the transverse mesocolon to the neighborhood of the posterior wall of the stomach, getting as near to the solar plexus as possible. The solution still at 112 F., is allowed to run in as rapidly as it will. Probably a pint will fill the abdomen and be enough.

The irritation of the splanchnic nerves and sympathetic ganglia produced by the heat and pressure at once cause contraction of the intestinal arteries, veins and portal vein, and thus a marked rise in blood pressure. Really a shock is produced by the sudden pressure of this hot solution on this great and important part of the vasomotor nerve mechanism, but this shock is a sudden reversal of the phenomena of surgical shock. The radial pulse returns or its pressure is markedly increased. The glass tube is taken out quickly; a small piece of gauze is laid over the wound, and a strip of adhesive plaster applied, then a tight abdominal binder to sustain the pressure. If this treatment should not succeed, Hopkins strongly advises repeating it in one or two hours. In addition to the above treatment he also advises hot salt solution by rectum, ten ounces every two hours, principally on account of getting the heat near the hypogastric plexus and splanchnic nerves, also full glasses of hot water to drink for similar purposes; otherwise the patient should not be disturbed with hypodermics or even by raising the foot of the bed, but should just be kept warm and as comfortable and peaceful as possible.

Vermont Medical Monthly, Burlington

January

73 Recent Advances in our Knowledge of the Blood. R. C. Cabot, Boston.
74 Venereal Disease in Vermont. W. W. Townsend, Rutland.
75 Care of the Child in the Puerperium. G. S. Clark, Montgomery.
76 Features of Infantile Paralysis. J. H. Bainton, New York.

Yale Medical Journal, New Haven

January

77 Alcohol as a Food. M. M. Scarbrough, New Haven.
78 Alcohol as a Poison. T. D. Crothers, Hartford, Conn.
79 *Therapeutic Use of Alcohol. O. T. Osborne, New Haven.
80 *Extrauterine Pregnancy. P. H. Ingalls, Hartford, Conn.
81 *Importance of More Careful Surgical Diagnosis and the Aid Afforded by Various Tests. H. F. Brownlee, Danbury.
82 *Heredity and Crime: A Study in Eugenics. W. H. Carmalt, New Haven.

79. **Therapeutic Use of Alcohol.**—In Osborne's opinion, the positive value and advantages of the proper use of alcohol as a drug in acute disease when the condition indicates the necessity for physiologic action similar to its activity, cannot be gainsaid. But, he says, alcohol should not be used because a patient is ill or has a fever, though frequently nothing in the drug line, in his opinion, will take the place of alcohol in medicine. He believes that a dose larger than from one to three teaspoonfuls, once in three hours, is probably never indicated, and if given should certainly not soon be repeated. As a food alcohol may save the burning of some tissue during the acute fever when the nutriment is not sufficient, or is not metabolized sufficiently, to save fat and muscle. Hence, in fevers it has a distinct food value, but probably no better than that which would be obtained from sugar. In continued cardiac failure or depression, whether in patients suffering from chronic disease or in patients with acute disease, alcohol is contraindicated, strychnin being generally the best medicinal treatment. Consequently, strychnin should not be begun early in acute disease, but should be reserved until it is needed and becomes a life saver. As a nutriment in chronic diseases alcohol is uneconomical and generally a positive disadvantage to the system.

As a vasodilator in chronic high arterial tension it should ordinarily not be used. This indication for treatment is present in arteriosclerosis and gout, and is a symptom and sign in late middle life of old age. If arteriosclerosis is present and the patient is well along in life, and is accustomed, and has been accustomed, to take alcohol regularly in doses that do not intoxicate, it may be unwise to stop the vasodilating effects of the alcohol, until it has been ascertained that some other treatment will be as conducive to well-being. In other words, the physiologic relief from high tension which the patient has been accustomed to acquire by taking alcohol cannot be stopped abruptly without due consideration of the consequences of withdrawing the drug. Alcohol has been largely used and frequently ordered, and the laity often resort to it to abort acute colds. Hot baths, combined with hot lemonade, or hot tea, or other hot non-alcoholic liquids, or a dose or two of a coal-tar sweat-producing drug, or a Dover's powder, and the quickly acting saline catharties, will accomplish as much in aborting colds as will alcohol, and therefore it is rarely necessary to resort to alcohol in such a condition.

80, 81, 82. Abstracted in THE JOURNAL, June 26, 1909, p. 2126.

Ophthalmic Record, Chicago

January

83 Retinitis Proliferans with Pigmentation, Following Hemorrhage from Bowel. E. C. Ellett, Memphis, Tenn.
84 Intradural Glioma of the Optic Nerve, Macroscopic and Microscopic Findings. A. A. Foucher, Montreal.
85 Total Ophthalmoplegia (Hysterical) Cured by Psychotherapy. A. G. Bennett, Buffalo, N. Y.
86 Rupture of Sclerotic, with Subconjunctival Dislocation of the Crystalline Lens. G. F. Keiper, Lafayette, Ind.
87 Melanotic Sarcoma of the Orbit. J. B. Haden, Galveston, Tex.
88 Varix or an Angioma Venosum of Orbit Cured by Alcohol Injections. J. F. Klinedinst, York, Pa.
89 Monocular Hemianopsia Due to Ethmosphenoidal Disease. F. Krauss, Philadelphia.

American Journal of Urology, New York

January

90 *Large Iodoform-Gauze Tampon in Bladder for Nearly Ten Months. Y. G. Veckl, San Francisco.
91 Why is Faradic Treatment Superior to Massage in Prostatitis? M. Porosz, Budapest, Hungary.
92 Urethral Calculi. J. R. Hayden, New York.
93 Obstructive Calculous Anuria. F. S. Watson, Boston.

90. **Iodoform-Gauze Tampon in Bladder.**—A man, 67 years old, had for 8 years more or less difficulty in emptying his bladder. In December, 1908, he submitted to prostatectomy. The operation was performed successfully, but while the patient did not die, his real pains and suffering began from that time. The urine became fetid, escaping through a suprapubic fistula, the bladder became absolutely intolerant and had to be emptied every hour day and night, and the pain at the end of micturition was "terrible." This history spoke for a stone in the bladder. The cystoscope showed a foreign body in the bladder that looked like the head of a brain coral. The beak of the cystoscope, when entering, gave the characteristic stone-sound, but when touching the surface of the coral-head-like formation, gave no sound and no feeling of resistance. Suprapubic cystotomy was performed. It was at once clear that the foreign body, soft at its upper surface, and stone-hard at its lower one, was a piece of gauze left over from the former operation. This was extracted. The patient made an uneventful recovery. The tampon had been in the bladder for ten months.

Medical Herald, St. Joseph, Mo.

December

94 *Diagnostic and Therapeutic Points in the Management of Renal Tuberculosis. F. Kreissl, Chicago.
95 Inguinal Hernia. C. G. Geiger, St. Joseph.

January

96 *Diagnosis and Treatment of Gastric Ulcer with Special Reference to the Lenhartz Diet. L. Crummer, Omaha, Neb.
97 Tuberculosis of the Fallopian Tubes. E. Lamphear, St. Louis.
98 Mlle. Christine: An Anatomic Curiosity. S. G. Burnett, Kansas City, Mo.
99 Internal Secretion as the Autoimmunizing Agent of the Body. J. F. Owens, St. Joseph.
100 Prevention of Venereal Disease. T. M. Paul, St. Joseph.

94. **Renal Tuberculosis.**—Kreissl discusses some diagnostic and therapeutic points in the management of renal tuberculosis.

96. Abstracted in THE JOURNAL, Sept. 25, 1909, p. 1048.

Atlanta Journal-Record of Medicine

January

101 The Legitimate Practitioner and the Quack. J. R. Simpson, Atlanta, Ga.
102 Surgical Shock. J. G. Earnest, Atlanta.
103 Fracture of the Skull. S. B. Little, Colbert, Ga.
104 Treatment of Delirium Tremens. G. E. Petter, Memphis, Tenn.
105 Complicated Fracture. J. H. Miller, Cross Hill, S. C.
106 Anesthesia. W. W. Jarrell, Thomasville, Ga.
107 Fractures of Patella and their Modern Operative Treatment (continued). A. P. Heineck, Chicago.
108 *Prophylaxis of Pellagra. C. H. Lavinder, U. S. P. H. and M.-H. S.

108. Abstracted in THE JOURNAL, Nov. 20, 1909, p. 1770. The article was also published in the *Southern Medical Journal*, November, 1909.

American Journal of Surgery, Philadelphia

January

109 Fractures. J. E. Blake, Brooklyn.
110 *Use of the Photoscope for Demonstrating Operations to a Large Number of Visitors. C. H. Duncan, New York.
111 Acute Dilatation of the Stomach. S. R. Hopkins, Omaha, Neb.
112 Results of the Use of Bismuth Paste in Tuberculous Sinuses at the Sea Breeze Hospital. L. W. Ely, New York.
113 Roentgen-Ray Diagnosis of the More Common Injuries and Diseases About the Hip-Joint. C. Eastmond, Brooklyn.
114 Surgical Treatment of Goiter. J. E. Cannaday, Charleston, W. Va.
115 Intestinal Obstruction with Gangrene of Meckel's Diverticulum, Due to Twisting. E. A. Parker, Brooklyn.

116. Another article on this subject, by the same author, appeared in THE JOURNAL, Feb. 12, 1910, p. 534.

Journal of the Tennessee State Medical Association, Nashville

January

116 Ocular Complications of Nephritis. H. Wood, Nashville.
117 General Considerations in the Surgery of the Mastoid. R. M'Kinny, Memphis.
118 Melancholia. H. Padgett, Nashville.
119 Therapeutic Suggestion. J. W. Stephens, Nashville.
120 Bacteriology of Typhoid. W. Litterer, Nashville.

Annals of Ophthalmology, St. Louis

January

121 Physiology of Pupillary Movements. C. Lafon.
122 Transferred Ophthalmitis. C. A. Oliver, Philadelphia.
123 Visual Requirements of Transportation Employees. N. M. Black, Milwaukee.
124 Relief of Glaucoma through Subconjunctival Injections of Sodium Citrate. H. G. Thomas and M. H. Fischer, Oakland, Cal.
125 Do Diseases of the Accessory Sinuses Cause Keratitis Parenchymatosa? E. J. Bernstein, Kalamazoo, Mich.
126 Parinaud's Conjunctivitis with Unusual Complications. F. Krauss, Philadelphia, and M. P. Boyle, Glenside, Pa.
127 Modified Knapp Koller for Expression in Trachoma. W. N. Whitney, Tokio, Japan.

Southern California Practitioner, Los Angeles

January

128 Gonorrhea in Young Women: Research Work and Conclusions in Vaccine Therapy. J. C. Hollister, San Diego.
129 Typhoid Carriers. R. Bancroft, Los Angeles.
130 Acute Anterior Poliomyelitis. A. J. Rosenberry, Jerome, Ariz.
131 Prevention of Communicable Diseases. J. I. Clark, Santa Ana, Cal.
132 Digitalis. W. I. Linn, Prescott, Ariz.
133 *Retroperitoneal Hemorrhage—An Unusual Case. H. H. Lissner, Los Angeles.
134 Does the Correction of Physical Defects of Juvenile Criminals Improve their Moral Conduct? J. A. Collilver, Los Angeles.

133. **Retroperitoneal Hemorrhage.**—After eating three-fourths of a pound of raisins a man aged 30, was awakened by severe cramps in the abdomen, at 3 a. m., with which he suffered during the remainder of the night. On the morning of the same day Lissner saw him and his condition was as follows: Temperature normal, pulse 72, cramps in abdomen. Pain not localized, but generally distributed, constant, with occasional exacerbations; pressure with both hands over the abdomen relieved pain somewhat. Tympany present all over abdomen, obliterating liver dulness; no palpable tumor; no localized tenderness over McBurney's point; slight rigidity over abdominal muscles, below umbilicus, more on left than on right side; bowels constipated. Hot water bag was ordered applied to abdomen and calomel and salts were given; the patient obtained relief from acute pains and was comfortable after having had several copious bowel movements.

Although he had more or less dull pain in the abdomen, the man continued uninterruptedly at his work, that of a solicitor, for a week, when he returned for examination. There was marked rigidity over lower abdomen, much greater on left than on right side. Palpation over left iliac fossa revealed a mass of some kind. It was dome-shaped and extended from one inch below umbilicus, and to left of median line toward pubes and iliac fossæ. All the rest of abdominal surface was decidedly tympanitic. Bowels were constipated. Two days later, pain during the night was very severe. No nausea or vomiting occurred at any time during the illness. Patient was sent to hospital in the morning. On the evening of the same day temperature was 101 F., pulse 120, and patient's expression was anxious. Pain became more paroxysmal in character, and was localized to region two inches in diameter with umbilicus as center.

A median incision was made and immediately on opening the peritoneum pure blood from the abdominal cavity presented at the wound. Beneath the intestines and mesentery on each side of the vertebral column, a tumor mass presented, which was doughy to the touch, did not fluctuate, and was retroperitoneal. It proved to be organized blood clot; one clot on each side of spinal column connected by a lamina of fibrin. Each clot was about the size of a fetal head. After removing these clots and the other less organized blood, two bleeding points presented, one, an artery, small in caliber, the other seemed to be more of an oozing. The location of the vessel or origin of the hemorrhage was not identified because the condition of the patient did not warrant any further proceedings or manipulation. The vessel was tied and the oozing controlled by hot packs soaked in adrenalin solution. At the end of two weeks the patient was allowed to return to his home and was instructed to remain in bed. Liquid diet was prescribed. On the Saturday following his return home the patient arose and walked about the house, and feeling hungry ate liberally of beefsteak and German fried potatoes. He was again attacked by violent pains in the abdomen and he went into a condition of shock rapidly. Autopsy disclosed a retroperitoneal adenocarcinoma.

St. Louis Medical Review

January

135 *Specific Treatment of Tuberculosis. G. C. Crandall, St. Louis.
136 Pertinent Facts About Tuberculosis. O. H. Brown, Mt. Vernon, Mo.
137 Problem of Uterine Cancer. G. Gellhorn, St. Louis.
138 Malignant Tumors of the Eye. A. Alt, St. Louis.

135. **Specific Treatment of Tuberculosis.**—Crandall reports 21 patients now on tuberculin treatment, as follows: Twelve pulmonary tuberculosis, 2 tuberculous adenitis, one of whom had tuberculous conjunctivitis, 2 tuberculous knee, 2 tuberculous spine, 2 tuberculous rectal fistula, 1 tuberculous elbow, 1 tuberculous kidney. All are improving very satisfactorily except three patients with advanced pulmonary tuberculosis, and in two of these the disease appears noticeably retarded. Crandall believes that tuberculin, if properly given, exerts a beneficial effect in the majority of cases, materially aiding in making some active processes latent, and, in some of the less favorable ones, retarding the progress of the disease. Patients who have not responded favorably to general treatment, or in whom the condition has remained stationary, appear to be given an impetus toward recovery; and they also seem to be safeguarded in a measure against the untoward effects of intercurrent diseases or other physically depressing influences. In the main, Crandall is using human O. T. B. E. and B. F., regardless of the type of infection. But he is beginning to use with some cases either the human or bovine tuberculins, according to which type of infection the tuberculin test indicates.

Northwest Medicine, Seattle

January

139 Conservatism in Surgery. H. B. Luhn, Spokane, Wash.
140 Incidence of Echinococcus Disease in British Columbia. R. E. McKechnie, Vancouver, B. C.
141 Nephritis and its Comparative Frequency over the Pacific Northwest. E. P. Pickel, Medford, Ore.
142 Newer Conceptions Regarding the Action of the More Important Diuretics. J. R. Brown, Tacoma, Wash.
143 The Much Abused Nose. A. M. MacWhinnie, Seattle, Wash.

Old Dominion Journal of Medicine and Surgery, Richmond

January

144 Surgery of the Kidney; Fifteen Cases of Nephrectomy. F. Martin, Baltimore.
145 Pyloroplasty. H. H. Trout, Roanoke, Va.
146 Casts—Their Origin and Significance. G. Baughman, Richmond.

American Journal of Physiology, Boston

February

147 *Physiology of Lymph: Comparative Electrical Conductivity of Lymph and Serum of the Same Animal, and Its Bearing on the Theories of Lymph Formation. A. B. Luckhart, Chicago.
148 Physiology of Lymph: Fractional Coagulation of Lymph. H. O. Lussky, Chicago.
149 Regeneration of Nerve and Muscle in the Small Intestine. W. J. Meek, Madison, Wis.
150 *Acapnia and Shock: Failure of Respiration After Intense Pain. Y. Henderson, New Haven, Conn.

147. Physiology of Lymph.—Luckhardt starting from the results of the work of Carlson, Greer and Luckhardt, which showed that the lymph contained more chlorids than the serums, attempted to confirm these findings by determining the electric conductivity of the lymph. He reaches the following conclusions:

1. The work of Bottazzi and that of the present paper confirm the work of Hamburger, Carlson, Greer, and Luckhardt on the excess of chlorids in the lymph by showing that lymph is a better electric conductor than the serum.

2. The protein, egg-albumin, depresses the conductivity of an electrolyte. Since the serum is more concentrated in proteins than the lymph, the greater conductivity of the latter might possibly be explained on the basis of its smaller protein content. It was, however, shown that the depression of 0.9 per cent. sodium chlorid solution by egg-albumin even when in high concentration is slight and inadequate to explain the great difference in conductivity found between lymph and serum.

3. The fat droplets contained in chylous thoracic lymph depress the conductivity of this lymph by physically offering a resistance to the passage of the ions.

4. A 10 per cent. increase in the sodium chlorid content of a physiologic saline solution causes an increase in the electrical conductivity of the solution which is comparable to the increased conductivity of the lymph over the serum.

5. Why there is an excess of chlorids in the lymph and how this condition is brought about awaits an explanation. Hamburger's suggestion that the lymph gives up its carbon dioxid ions which it has received from the tissue cells to the blood in exchange for twice the amount of chlorin ions is in harmony with the facts that the lymph contains more salts and is a better electrical conductor than the serum, and that the per cent. and tension of carbon dioxid are less in the lymph than in the venous blood.

6. The excess of chlorids in the lymph, together with the greater conductivity of the latter, appears to be incompatible with a purely mechanical theory of lymph formation.

150. Acapnia and Shock.—Henderson has shown in previous articles that rapid respiration with ensuing ventilation of the lungs and removal of carbon dioxid is productive of shock. The rapid respiration or hyperpnea if continued sufficiently long is followed by apnea which may be fatal. In the present article he endeavors to show by experiment and clinical observation that a similar hyperpnea is produced by irritation of the sensory nerves and is the cause of shock, resulting from severe pain. In the animal experiments consciousness was abolished by the use of ether and morphin so that the term pain used in describing the experiments refers to the irritation of the sensory nerves and not to the conscious feeling of pain. The results show that the effects of pain are not due to the consciousness of suffering but to the nerve irritation. It appears, therefore, that the consciousness of suffering is a mere accompaniment and not a causal element in the development of shock. Henderson reports a case of hyperpnea in a man who sprained his ankle and also quotes a report of fatal apnea in a man injured by the laceration of the left hand and left chest wall over the heart by the explosion of a giant fire cracker. The death of this man was similar in nearly every detail to the fatal apnea vera of the experiments. He concludes as follows:

The hyperpnea induced in intense afferent irritations involves excessive pulmonary ventilation. The condition of acapnia which results is identical with that produced by forced breathing in men, and by excessive artificial respiration in animals.

When the quantity of carbon dioxid in the blood has been reduced below the threshold of the respiratory center and the irritation is considerably diminished, apnea vera occurs. If the acapnia is intense, apnea may continue until death results from oxygen starvation of the heart. The fatal process usually occupies eight minutes, but if the arterial blood stream is greatly diminished it may occur in less than two minutes.

During the anoxemia of prolonged apnea, asphyxial acidosis develops. If the acapnia is not intense, these products of incomplete tissue combustion induce isolated gasps followed by Cheyne-Stokes breathing, and prevent immediate death.

After intense bodily suffering failure of respiration is the usual form of death. It is only when the pain is sufficiently continuous to prevent apnea that the slower process of failure of the circulation develops.

The administration of carbon dioxid gas in proper dilution, during apnea after pain hyperpnea restores spontaneous breathing. The administration of oxygen prolongs apnea, but cures the fundamental abnormal conditions—acidosis and acapnia.

Because of the influence of ether as a respiratory stimulant moderate ether anesthesia tends to prevent apnea (in dogs) unless neutralized by morphin.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London

January 29

1 Chronic Mastitis and its Relation to Carcinoma. C. B. Lockwood.
2 Tuberculous Diseases of the Skin and their Treatment. J. L. Bunch.
3 *Pontine Tumor Producing Dissociated Hemianesthesia. W. P. Herringham and C. M. H. Howell.
4 Acute Primary Phlegmonous Gastritis. J. E. Adams.
5 Acute Dermatitis Due to Bichromate of Potassium. R. P. White.
6 Spinal Meningocele: Operation when 40 Hours Old: Recovery. R. L. Ley.
7 The Circulatory System (continued). H. Campbell.

3. Pontine Tumor Producing Dissociated Hemianesthesia.—The authors assert that theirs is the only case reported in which hemianalgesia and hemithermo-anesthesia were produced by a tumor, while the sense of touch was preserved (dissociated hemianesthesia), and it carries the localization of the track of sensations of pain and of heat higher up the central nervous system than has yet been reached.

A man, aged 36, had had a sore on the penis seven months previously, but no secondary symptoms. He was treated by iodid of potassium and mercury, pushed to salivation, but fruitlessly. One year ago he was treated for neuralgia. Six months ago he began to attend in the out-patient department for left facial paralysis. He then swayed when standing and had unequal pupils and diplopia. While in the ward he had: (1) Persistent occipital headache; (2) repeated vomiting; and (3) the following localizing symptoms:

Tactile sensation was preserved everywhere, except on the left side of the face and on the mucous membranes of the mouth and nose. The superficial sensation of pain (pin-prick) was entirely lost over the whole of the right half of the body from the crown of the head to the sole of the foot, with the exception of the penis and scrotum and a small area around the anus. Here pin-prick was felt naturally. A small area round each of these parts showed relative analgesia. The deep sensation of pain was apparently also lost on the same side, for pressure which produced pain on the left half of the body and on the left limbs produced no pain on the right. The vibrations of a tuning fork were either not felt at all on the right side, as at the knee and on the crest of the ilium, or were felt less or for a shorter time than on the left side. The sensation of heat was completely lost, and that of cold was only recognized as producing a stinging pain over the whole of the right side, with the exception that on the scrotum and penis the extremes of heat and cold were distinguished as hot and cold. The sense of position of the limbs was natural.

The sensory condition of the face and mouth was peculiar. It was explained by a second tumor which had not been suspected during life. Tactile sensation was lost over the left face and cheek from the eyebrow to below the mouth, and was weak over the forehead, temple and lower jaw. The sense of pain and the thermal sense were preserved over these areas. The mucous membranes of the nose, cheek, palate, tongue and lips were anesthetic on the left side, but not on the right, to the touch of cotton-wool. Of the mucous mem-

brane of the cheeks and lips the left side was analgesic, though the skin on the left cheek felt pain, while the right side felt pain, though the skin of the right cheek did not. There was anesthesia to cold on the dorsum and on the under surface of the left half of the tongue, but anesthesia to heat was complete over the whole dorsum and partial over the whole of the under surface. Cold was felt inside both cheeks, and on both lips, but heat was not felt inside either cheek and was delayed on the lips.

Equilibrium was lost. The patient swayed greatly when standing or walking. There was weakness of the left sixth nerve and diplopia was produced by looking to the left. There was nystagmus in every direction, except downward. The right pupil was always larger than the left, but each pupil reacted naturally to light and to accommodation. There was some weakness of the left external pterygoid, none of the masseter. There was slight weakness of the facial muscles on the left side of the mouth. The eyes closed naturally and the frontalis muscle also acted naturally. The tongue was protruded straight; swallowing and speech were natural; the palate and the vocal cords moved equally and well. There was no muscular wasting. The power of the right arm and leg was equal to that of the left, and when lying in bed, coordination was natural on both sides. The right knee-jerk was the greater; there were ankle clonus and extensor response of the great toes on the right side.

Vision was natural with each eye separately. The fields were not contracted. The optic discs were examined several times and found natural. Hearing was bad. A watch was not heard beyond eight inches from the right ear and four from the left. But in this ear the membranes were normal and bone conduction was unimpaired. Taste was lost over the left half of the tongue.

When the brain was removed post-mortem, a rounded growth was seen occupying the position of the sella turcica, but not infiltrating the brain in any way, though its posterior part was to some extent compressing the ventral aspect of the pons. A second tumor, partly solid and partly cystic, was also observed, apparently embedded in the left lateral aspect of the pons.

British Medical Journal, London

January 25

8 *Appendix Dyspepsia. B. G. A. Moynihan.
9 *When to Operate for Appendicitis. R. P. Rowlands.
10 *Treatment of Gastric Ulcer. J. Craig.
11 *Analysis of a Series of Cases of Perforated Gastric and Duodenal Ulcers. J. Morton.
12 *Diagnosis and Treatment of a Common Form of Dyspepsia and of Early Tuberculous Infection in Children. A. Dingwall-Fordyce.
13 Dried Milk as a Food for Infants. C. K. Millard.
14 Therapeutic Value of Carbon-Dioxid Snow in Treatment of Vascular Nevi, Moles, etc. J. M. H. MacLeod.
15 Results Obtained from Local Application of Solid Carbon Dioxid. E. R. Morton.
16 Clinical Estimation of "Acidosis." A. E. Barnes.

8. **Appendix Dyspepsia.**—During the last few years Moynihan says that he has been brought by degrees to recognize that in many of the intractable cases of indigestion, in which a lesion of the stomach, duodenum or gall-bladder might not unreasonably have been supposed to exist, no structural alteration could therein be found. On further investigation an appendix obviously diseased was discovered, and its removal was quickly followed by a complete relief of all former disabilities. Moynihan concludes that the symptoms of both gastric and duodenal ulcer, especially the former, may be exhibited with great fidelity in cases in which no structural lesion can be found in these parts. In many of the cases of "gastric ulcer" in which the symptoms pain, vomiting, hematemesis are present, and in many cases of intractable dyspepsia of a capricious kind, the only pathologic change discovered during operation is a chronic inflammation of the appendix. Removal of the inflamed and obstructed appendix is generally followed by a complete and instant relief of all former dyspepsia. The cessation of symptoms may, however, come only by degrees and with the lapse of many weeks.

Moynihan emphasizes the fact that no operation for supposed gastric or duodenal ulcer is complete until an examination has been made of the appendix, small intestine and mesenteric glands (that is of the midgut). If in such an operation no lesion can be found in the stomach or duodenum, it is not permissible to perform any operation such as gastroenterostomy. This operation yields results not surpassed by any other when performed in strictly appropriate cases. It is worse than useless in chronic appendicitis.

Moynihan believes that the mimicry of the symptoms of gastric ulcer in these cases is due to an exaggerated action of the pylorus. This tumult of contractile activity can be recognized when the stomach is inspected. Investigation is necessary to ascertain the frequency with which the mucous erosion of the stomach (the "acute" or "medical" ulcer) is dependent on a primary lesion in the appendix or intestine.

9. **When to Operate for Appendicitis.**—Rowlands says that it is wise to remove the appendix in the quiescent period after one definite attack of appendicitis. The best treatment of acute appendicitis in his opinion is an operation at the earliest possible moment, if a good surgeon is available.

10. **Treatment of Gastric Ulcer.**—Craig employs the Lenhartz treatment in gastric ulcer.

11. **Perforated Gastric and Duodenal Ulcer.**—Morton's cases bear out the generally accepted view that duodenal ulcer is more common in men, and gastric ulcer in women. All the duodenal cases, 4 in number, occurred in males, while of the 7 gastric cases, 6 occurred in females. One of the latter was really a malignant tumor of the pylorus, which gave way suddenly while the patient was in the hospital, with the usual sudden acute symptoms of a perforating lesion; while another was a perforated "peptic ulcer" at the line of junction between stomach and jejunum, in a patient on whom a gastroenterostomy had been performed four months previously. The ages of the patients varied from 21 to 65 years, the average being 39 years. The site of the ulcer in all but 2 cases—that is, in 82 per cent. of the whole—was close to the pylorus, and in the whole series was situated on the anterior wall of the organ.

The ulcer presented in most of the cases a more or less definite punched-out appearance, with characteristic hard edges, and varied in size from a very tiny opening to one-fourth inch or more in diameter. Excluding, for obvious reasons, the malignant case referred to, 10 patients were operated on, of whom 7 recovered, and 3 died—a mortality of 30 per cent.

12. **Early Tuberculosis Infection in Children.**—Dingwall-Fordyce's impressions as regards the administration of tuberculin in obviously glandular infections—mainly abdominal or cervical glands—or in cases which by the previous methods of diagnosis are: 1. That this treatment is very unsafe when large doses are employed or when the temperature is unsteady. 2. It is safe in minute doses, when commenced with a practically normal temperature and when the patient is kept under observation. 3. In many cases tuberculin treatment appears to have no definite effect on the condition one way or another. 4. In cases in which treatment by rest, climate, feeding, and careful nursing can be employed, improvement by these means alone is usually so marked that it is impossible to attribute to tuberculin, when given in these cases, its due meed of praise or to judge whether it takes any part whatever in the improvement. 5. However, when treatment by rest, climate, feeding and careful nursing cannot properly be adopted, tuberculin is often of marked value. These are the patients who otherwise do badly, and tuberculin treatment is with them of the greatest importance. 6. T. R. is, as a rule, preferable to P. T. R. 7. For routine use the method of hypodermic injection is superior to that of oral administration; the effect of giving tuberculin by the mouth varies very much. These impressions are derived from the treatment of about 100 cases during the past three years.

Clinical Journal, London

January 19

17 Intestinal Stasis. W. A. Lane.
18 Cases Illustrating Mutism. J. A. Ormerod.
19 Examination of Bodies Found in the River. F. G. Crookshank.
20 Cholecystduodenostomy for Acute Emaciation Following Formation of a Biliary Fistula. J. D. Malcolm.

January 26

21 Acute Poliomyelitis. W. P. Herringham.
22 Paralysis in Children in Some of Its Clinical Aspects. G. Rankin.

Medical Press and Circular, London

January 26

23 *Common Acne: Its Cause, Symptoms and Treatment. D. Walsh.
24 *Pelvic Hematoma of Ovarian Origin. C. Lockyer.
25 *Pseudoflexion of Uterus as Sign of Pregnancy at the First Month. S. Stritch.
26 Facial Spasm and Tic Torticollis: Diagnosis and Treatment. T. A. Williams.

23. **Acne.**—Speaking of vaccine therapy in acne, Walsh says that the use of a polyvalent vaccine (prepared from cultures of *Staphylococcus albus, citreus* and *aureus*) answers well enough in most cases, especially when there is much pustulation. When the chief feature is the comedone, an acne bacillus vaccine is indicated. A mixed vaccine of 200,000,000 polyvalent staphylococci and 8,000,000 acne bacilli is what he has used in recent cases. The dose must be gradually increased to the maximum with about ten days' interval, and the effects very carefully watched. He has found the treatment to yield brilliant results in some cases, while in others the condition recurs shortly afterward, or shows no appreciable improvement.

24. **Pelvic Hematoma of Ovarian Origin.**—Lockyer cites the cases of two patients operated on for supposed acute appendicitis, but in which the lesions proved to be pelvic hematoceles in which there was no evidence of pregnancy. In both instances the Fallopian tubes were intact and not damaged; in both an ovarian blood cyst had ruptured and was the cause of the internal bleeding. In a third case, after the left tube had been removed for ruptured ectopic gestation, a pelvic hematocele formed on the right side, due to ovarian bleeding. In this case and in one of the other two cases, Lockyer sought by microscopic investigation to find proof of ovarian gestation, but failed.

25. **Pseudoflexion of the Uterus as Sign of Pregnancy.**—In trying to determine the existence of pregnancy, Stritch made bimanual examinations, and felt a relationship of the parts suggestive of an anteflexion of the uterus. At first Stritch thought that the anteflexion was artificially produced by the pressure used in approximating the hands. By removing the outside hand and only examining with the internal finger he discovered that such was not the case, inasmuch as the condition remained unaltered. He then assumed, for the sake of argument, that the uterus is, as it were, abnormally anteflexed at the first month of pregnancy.

Journal of Tropical Medicine and Hygiene, London

January 15

27 Porocephaliasis in Man. L. W. Sambon.
28 Peculiar Fracture of the Radius. A. G. H. Smart.

Annales de Gynécologie et d'Obstétrique, Paris

January, XXXVII, No. 1, pp. 1-64

29 *Lactosuria during Pregnancy. (Recherches sur la lactosurie pendant la grossesse.) E. Gérard and M. Oui.
30 *Diagnostic Importance of Differences in Temperature in the Legs in Phlegmasia Alba Dolens. (Différence de température des membres inférieurs dans la phlegmatia alba dolens.) M. Delestre.
31 *Metastatic Oöphorosalpingitis. (Les oophoro-salpingites métastatiques.) J. Okinczyc.

29. **Lactosuria in Pregnant Women.**—Gérard found evidence of lactosuria in only 5 out of 41 pregnant women approaching term. When found it proved transient in all but one case. This woman had from 4 to 11 gm. lactose to the liter of urine and she was suffering from distressing general pruritus. The latter subsided on an exclusive milk diet, but she was unable to nurse her child.

30. **Difference in Temperature of the Legs with Phlegmasia Alba Dolens.**—Delestre reports nine cases of phlegmasia alba dolens which show that the temperature of the diseased leg is much higher than that of its sound mate; the difference may be from 1 to 4 degrees Centigrade. This difference is evident, and reaches its maximum during the first days of the affection. By the end of five or six weeks the difference subsides, but the curves afford no information as to when the women can be allowed to get up. In five other cases, painful varices with fever suggested phlegmasia alba dolens at first, but the lack of difference between the temperature of the legs failed to confirm this diagnosis, as also the course of the cases. He states that there is always liable to be a difference in temperature between the two legs, even in health, but it never surpasses 1 degree C. in health (1.8 degree F.). In one case the symptoms of the phlegmasia were so slight that the diagnosis was uncertain until the difference in the temperature of the legs confirmed its existence.

31. **Metastatic Inflammation in the Adnexa.**—Okinczyc discusses the oophorosalpingitis observed with scarlet fever, measles, smallpox, mumps, tonsillitis, typhoid, pneumonia, influenza and other infections, as also those with syphilis and helminths, reviewing 127 communications in the literature. In mumps and tonsillitis the ovaritis subsides under repose and ordinary measures, but when of other origin operative treatment is generally necessary.

Annales de Médecine et Chirurgie Infantiles, Paris

January 1, XIV, No. 1, pp. 1-36

32 The Blood in Inherited Syphilis and its Modification under Mercurial Treatment. (Hématologie et syphilis héréditaire.) G. Sisto.

Archives de Médecine des Enfants, Paris

January, XIII, No. 1, pp. 1-80

33 *Measles plus Scarlet Fever in Children. (Infection double par rougeole et scarlatine chez les enfants.) Brudzinski.
34 *Advantages and Disadvantages of Trip to Country for City Wage-earners' Children. G. Détré.

33. **Scarlet Fever Plus Measles.**—Brudzinski reports from the hospital for children at Lodz, Poland, 12 cases of scarlet fever plus measles, and discusses the cases of mixed infection on record, studying the way in which each infection is modified by the other. His experience does not indicate that one infection predisposes particularly to the other. The mortality with the double infection was only 8.3 per cent., while it was 24.4 per cent. of the total of 319 cases of scarlet fever during the year. Complications did not seem any more frequent with the double infection, except possibly otitis media. This was observed in 16.6 per cent., while in a total of 340 scarlet-fever patients in 1906 only 14 per cent. had otitis. Desquamation of both types seemed to be more intense with the mixed infection and to last much longer. Koplik's spots were of great service in revealing the superposed measles in some cases. One child developed measles on the thirty-seventh day of scarlatinal infection; both diseases were mild, but desquamation still persisted seven weeks after disappearance of the scarlet fever and three weeks after the measles. In hospitals and schools it is important to bear in mind the possibility of these double infections. Especially dangerous is it when children recovering from measles develop scarlet fever, as it is seldom recognized in these conditions and the children are allowed to return to school supposedly free from infection. Desquamation can be discovered in the palms if sought for.

34. **The Country for City Children During the Summer.**—Détré has observed in his dispensary work that after a summer in the country the smaller children brought to the clinic have suffered from the change instead of gaining. In 103 children specially examined for the purpose, only a very small proportion returned in better health than when they left. He now warns the parents in wage-earning families that the bad hygiene, the lack of supervision and the dangers of contagion outbalance the benefits of a stay in the country for very young children unless the mother can go, too. Even when the mother can go, he is inclined to advise against the country trip for the infants of the poor. But all is different when children are six years old or over; they have everything to gain, and nothing equals the life-giving influence of country air and freedom for them. The benefit is the greater the older the child, he declares; 53.3 per cent. of the children under the age of 2 returned worse off than when they left town, as did 34 per cent. of those between 2 and 6, sent to relatives or boarded out in the country. Moving about and long journeys seem to be particularly injurious for infants.

Bulletin de l'Académie de Médecine, Paris

January 18, LXXIV, No. 3, pp. 59-102

35 Principles of Treatment of Pulmonary Tuberculosis. (Principes de la reminéralisation organique. Essai d'antisepsie pulmonaire directe. L'orientation du traitement de la phtisie pulmonaire.) A. Robin.

Lyon Médical, Lyons

January 2, XLII, No. 1, pp. 1-56

36 *Systematic Oxygen Treatment of Bronchopneumonia in Children. Weill.

36. **Inhalation of Oxygen in Bronchopneumonia in Infants.**—Weill lauds the therapeutic inhalation of oxygen as a simple, harmless and reliable method of treating bronchopneumonia. It has to be used almost constantly to produce the best effect, and to be applied early. He orders oxygen as a routine measure now in every case of simple bronchitis in an infant when there is reason to fear extension of the inflammation to the lungs. Bronchitis thus combated rapidly subsides without complications. Especially urgent is the indication for the oxygen when signs of bronchopneumonia develop, even when there are still no physical signs, but merely an unexpected rise in temperature, accompanied by dyspnea, with abnormal respiration, persisting during sleep, inspiratory effort, the nails a little blue, distress and a special cough of the "moniliform type." He uses oxygen under high pressure; several hundred liters are compressed into a tank, taking from this for use as needed in rubber bags with a capacity of 30 liters that can be filled several times during the day. With 4 or 5 such bags the child can be kept supplied for several hours. He connects the bag with an apparatus which passes the oxygen through water, purifying and moistening it; it is then brought to the little patient, the ebonite tip of the tube is placed in the mouth or replaced by a triangular funnel that fits over the mouth and nose. Under the influence of the inhaled oxygen the lips grow red, the pulse decreases in frequency and the child breathes more easily and slowly and usually falls asleep. The oxygen not only relieves the symptoms, but acts directly on the infection. The temperature curve generally reflects the process in the lungs, and its definite drop under the oxygen demonstrates the beneficial influence of the inhalations. The oxygen is most liable to prove effectual if commenced early, and he urges its application without waiting for certain signs of the bronchopneumonia. He has gradually abandoned all other measures, although in desperate cases he leaves no stone unturned. His mortality from this disease has fallen to 20 per cent., but he does not regard statistics as of much significance in this disease. Of greater import is the enthusiasm among those who witness the effects of the oxygen treatment, also the way in which other physicians are now adopting the method.

Presse Médicale, Paris

January 19, XVIII, No. 6, pp. 41-48

37 *Surgical Treatment of Chronic Edema. (Lymphangioplastie ou drainage capillaire par fils.) M. Guibé.
38 Experimental Acute Poliomyelitis. (Les expériences de Flexner et Lewis sur la poliomyélite expérimentale.) C. Jarvis. (Essais de culture du parasite de la paralysie infantile.) C. Levaditi.

37. **Lymphangioplasty in Treatment of Chronic Edema.**—Guibé reviews the work that has been done in this line by Handley, Mitchell, Lexer and Draudt. This method of silk drainage for lymphatic obstruction was described in THE JOURNAL, April 11, 1908, page 1225. The silk can be passed under the skin for long distances, the needle being drawn out at intervals and introduced again in the same hole. The operation gives good results in solid edema or, rather, elephantiasis; the only mishap liable is from possible infection of the thread. In some of the cases on record the threads were withdrawn on this account, but after the lymph had become sterile they were reinserted with ultimate success. In one of Lexer's cases the solid edema followed recurring erysipelas, but no infection of the silk drains followed. In one of Draudt's cases 12 silk threads were introduced and carried from the leg to the iliac fossa, with others in penis and scrotum draining into the groin.

Revue de Chirurgie, Paris

January, XXX, No. 1, pp. 1-134

39 Operative Treatment in 3 Cases of Volvulus of the Large Intestine. P. Lecène.
40 Lesions Resulting from Action of Hemispora. (Hémisporose humaine—nouvelle mycose.) Gougerot and Caraven. Commenced in No. 12.

Semaine Médicale, Paris

January 26, XXX, No. 4, pp. 37-48

41 Extraperitoneal Cesarean Section to Date. R. de Bovis.

Berliner klinische Wochenschrift, Berlin

January 10, XLVII, No. 2, pp. 45-88

42 Appendicitis in Sweden. (Zusammenstellung des Appendicitismaterials aus dem Allg. Krankenhaus in Malmö.) F. Bauer.
43 Disturbances in Motor Functioning and Reflex Excitability in Palate, Throat and Larynx of Hemiplegics. (Störungen der Kinese und der Reflexerregbarkeit in Gaumen, Rachen und Kehlkopf der Hemiplegiker.) Graeffner.
44 Shape of the Spine in Relation to Development of Curvature. (Form der Wirbelsäule.) M. Böhm.
45 Production of Complement-binding Antibodies by Fats and Lipoid Substances. (Bildung komplementbindender Antikörper durch Fette und Lipoidkörper.) H. Kleinschmidt.
46 Variability of Inoculation Tumors and their Spontaneous Cure. (Impftumoren und ihre Spontanheilung.) E. Saul.
47 *Tincture of Iodin for Sterilization of the Skin. (Zur Desinfektion der Haut mit Jodtinktur.) E. Unger.
48 Perforation of Living Child from Legal and Religious Standpoints. (Perforation des lebenden Kindes.) E. Holländer.

47. **Iodin Sterilization of Field of Operation.**—Unger has used Grossich's technic in 25 laparotomies and 50 other operations, and states that the simplicity, ease and good results have made him a friend of the method. He warns that the field of operation must be kept as dry as possible, for ascitic fluid, etc., washes away the tincture to some extent. In 15 cases of early diffuse peritonitis he mopped each tier of the suture well with the iodin, and healing was by primary intention in each case.

Correspondenz-Blatt für Schweizer Aerzte, Basel

January 20, XL, No. 3, pp. 57-88

49 *Graphic Tracings of the Pulse. (Zur Technik der Pulsregistrierung.) A. Jaquet.
50 *Later Course of Traumatic Neuroses. (Nachuntersuchung bei traumatischen Neurosen.) O. Nägeli.

49. **Graphic Tracings of the Pulse.**—Jaquet gives the comparative tracings with various sphymographs and with sphygmochronographs of his own devising. His findings speak in favor of his own apparatus.

50. **Later Course of Traumatic Neuroses.**—Nägeli has been examining recently 138 persons who had been awarded an indemnity on account of an industrial traumatic neurosis. In direct contrast to the medical certificate in many cases, the later condition was found unexpectedly good. None presented evidences of permanent injury from the neurosis. The indemnity had been based on the assumed loss of from 30 to 80 per cent. of the earning capacity on account of the traumatic neurosis, but the earning capacity in all, except those with organic disease, was found equal to that before the accident and many were earning higher wages. The difference between his findings, in Switzerland, and those of physicians in Germany, he ascribes to the different mode of settling such claims. When the claim is settled definitely, once for all, the traumatic neurosis promptly subsides and the earning capacity is restored so far as the neurosis is concerned. It never recurred in any of the cases examined, and never developed into a psychosis. He declares that in future we can assure such patients of a speedy and permanent cure with a confidence which we have not hitherto possessed. This in itself will ward off neuroses in many cases. He appeals to others to inform him in regard to all cases of traumatic neurosis encountered, as he wishes to continue his research on the subject, hoping thus to establish a basis for this phase of industrial accident legislation.

Deutsche medizinische Wochenschrift, Berlin

January 20, XXXVI, No. 3, pp. 105-152

51 *General Principles of Treatment of Poisonings. (Allgemeine Behandlung von Vergiftungen.) E. Harnack.
52 *Two Fatalities under Scopolamin-Morphin Anesthesia. (Todesfälle bei Skopolamin-Morphium-Narkose.) Rinne.
53 Acute Anterior Poliomyelitis. (Spinale Kinderlähmung.) F. Eichelberg.
54 Hysterectomy in Placenta Prævia. S. Weinmann.
55 Potassium Chlorate not Serviceable in Serodiagnosis of Syphilis. (Kann das chlorsaure Kali bei der Wassermannschen Reaktion das Immunhämolysin ersetzen?) A. L. Garbat and F. Munk.
56 *Treatment of Syphilis in Light of Latest Research. F. Lesser.
57 Interpretation of Findings with Muscle-nucleus Test. (Zur Bewertung der Schmidtschen Kernprobe.) A. Hesse.

51. **Treatment of Poisoning.**—Among the special points emphasized in this general study of the subject of poisoning is the fact that the attempt may be made to mislead in regard to the poison used, not only with murder from poisoning, but also with suicides and poisoning from neglect. The rapidity of the toxic action is an important element; inhalation is especially dangerous, but there are certain poisons

whose effects are not felt after inhalation for some time, allowing a period of incubation. The mucosa of the vagina and uterus is an especially dangerous point of application for the metallic poisons and for iodoform. The mode of application is important, as means to get rid of the poison depend on this knowledge. A case of poisoning makes the highest demands on the knowledge, skill and presence of mind of the physician. No time should be wasted on half measures. While waiting for the stomach pump, large amounts of tepid water or milk containing a little soap are useful as emetics to dilute the poison, although with the drawback that they favor its solution. Medical emetics increase the weakness and muscular collapse, which is also liable with the stomach pump. The irritating emeties are the least appropriate; apomorphin seems to be the most reliable, given subcutaneously, but it has its drawbacks, and cannot be used for small children. The emetic does not dispense with the stomach pump; it may be necessary to resort to general anesthesia to introduce the stomach tube, so that a trained assistant should always be summoned in case of serious intoxication. Harnack urges the importance of rinsing out the stomach with a mucilaginous fluid; this protects and soothes the irritated mucosa and prevents absorption, and he warns that the rinsing out of the stomach is just as necessary even when the poison was not taken into the stomach, as many drugs are eliminated partly through the gastric mucosa. The mouth, throat and nose should also be irrigated with the mucilaginous fluid, as all the mucosæ possess marked absorbing properties. Warm castor oil seems to be the best laxative; it can be introduced through the stomach tube, but when the poison is soluble only in oil, a saline laxative should be preferred. Another point to bear in mind is that the respiration is so hindered in gas poisoning that artificial respiration may be needed and inhalation of pure oxygen may prove useful. Of extreme importance is venesection combined with saline infusion. Hydrogen dioxid may induce pulmonary embolism with subcutaneous injection, but the nascent oxygen may prove valuable in industrial hydrocyanic acid poisoning and should be accessible where such poisoning is liable. He discusses the dual antagonism between certain poisons, the antagonist not only stimulating, but also checking the action of the paralyzing poison; it is easier to paralyze an abnormally excited organ than to stimulate one already paralyzed. For instance, in general anesthesia the vomiting center is paralyzed and apomorphin injected has no emetic action, but it begins to show its influence as the effect of the anesthetic subsides. On the other hand, the respiration center is not paralyzed in general anesthesia and can be intensely stimulated by apomorphin, even in the midst of the anesthesia. The whole question of antagonism is not a simple sum, but a combination of stimulating and paralyzing actions which combine to form a peculiar picture, as he describes in detail. With an unconscious patient a mustard paste may be forgotten and lead to necrosis; all minor measures are inadvisable in severe cases. In case of great pain or excitement, injection of morphin is liable to bring on convulsions anew by reflex action; morphin is liable also to reduce the respiration still more and may transform the agitation into a dangerous paralysis. In chronic intoxication, potassium iodid and warm sulphur baths are certainly of some effect, although their action leaves much to be desired.

52. **Fatalities of Scopolamin-Morphin.**—Rinne's experience confirmed the advantages of this method of preparing the patients for an operation until two fatalities within three days warned him of its dangers. The cardiovascular system in these fatal cases was below par, and henceforth he will use a smaller dosage in such cases.

56. **Treatment of Syphilis According to Latest Research.**—Lesser has charge of the serodiagnostic tests at the Berlin clinic for skin diseases, and his experience has revealed some interesting facts in regard to the final cure of syphilis. In 525 cases the Wassermann test showed that 49 per cent. of the patients had thrown off the constitutional disease, judging from the repeatedly negative findings. Syphilitics never treated with mercury gave a positive reaction in all but 15 cases, while negative findings were obtained in 39 per cent. of those who had taken a single course of mercurial treatment soon after infection. The proportion of negative responses constantly increased with the number of courses of treatment, but the maximum seems to be reached with four courses (from 55 to 65 per cent. negative responses), and this proportion was not increased by more numerous courses. His experience has shown that the Wassermann test is a reliable index for treatment, the findings showing the dosage necessary in the individual case and the requisite duration of the course. A positive seroreaction invariably indicates, he affirms, the presence of still active spirochetes. A negative reaction in the early stage is of no import, but later, corresponding to the age of the syphilis, the evidence is favorable for a cure, and with increasing probability as the findings are repeatedly negative. It is not wise to have any routine practice of dosage nor length of treatment. One patient may have the positive findings transformed into negative with 30 mercurial injections, another with only 15, another with 40. The mercury is not able to abort constitutional syphilis, but it seems to paralyze the spirochetes. The peace of mind that comes with a permanent negative reaction is one of the greatest benefits of the seroreaction. He obtained a positive reaction in 76 of 112 cases of tabes and in all of 95 cases of progressive paralysis; he calls these the quartan stage of syphilis and awaits with impatience further testimony as to whether tabes and paralysis can develop in a patient long giving a permanently negative response to the Wassermann test. In 2 out of 112 cases of tabes, it developed immediately after severe trauma. In 28 cases syphilis was expressly denied and no mercury had been given, but the Wassermann test gave positive findings in 86 per cent., while the findings were positive in only 63 per cent. of the 82 tabetics with a manifest history of syphilis. It seems beyond question that this paradox is due to the mercurial treatment that had been undergone by the patients in this latter group. His experience has shown that the fifth year is the earliest limit at which negative findings, especially repeatedly negative, suggest the probability that the syphilis is cured; specific treatment should therefore be continued until a negative reaction is obtained, if obtainable without forcing. Lesser has never witnessed any harm from the more energetic courses of mercurial treatment. The Wassermann test is applied immediately after the close of the course of treatment, and he continues the treatment for a brief period, even after a negative response has been obtained.

Deutsche Zeitschrift für Chirurgie, Leipsic

December, CIII, Nos. 1-2, pp. 1-202

58 Bilateral Mammary Tumors in Two Men. Familial Type. F. Gangitano.

59 Two Hundred and Eight Herniotomies. Schemmel.

60 Appearance of Pus Cells in the Blood Not Pathognomonic for Surgical Lesions. (Vorkommen von Eiterkörperchen im Blut und deren diagnostische Bedeutung bei chirurgischen Krankheiten.) R. Chiarolanza.

61 Radical Operation for Non-Incarcerated Hernia. L. Imfeld.

62 Fracture of Head of the Tibia. (Brüche des Schienbeinkopfes.) T. Gümbel.

63 Obturator and "Prevascular" Femoral Hernia. (Zur Kenntnis der Hernia obturatoria und der Hernia cruralis "praevascularis.") A. Zinner.

64 *Bone Autoplastic Operation to Close Defects in Skull. (Verfahren der Knochenautoplastik zur Ausfüllung von Substanzverlusten der Schädelknochen.). N. Leotta.

65 Incarceration of Loop of Small Intestine in Prolapse through Cecal Fistula. (Seltener Fall von Inkarzeration einer Dünndarmschlinge im Prolaps der hinteren Darmwand einer Cöcumfistel.) K. Usteri.

66 Treatment of Fracture of Spine, Dislocation and Compression. (Behandlung der Luxationskompressionsfrakturen der Wirbelsäule.) K. Robertson.

64. **Bone Autoplastics for Gaps in the Skull.**—Leotta cuts a flap including the periosteum and small thin slices of bone chiselled up from the bone below and still adherent to the periosteum. The aim is to have these chips square, about 1 cm. on each side. The free end of the flap is cut to correspond to the contour of the gap to be covered and it is stretched and smoothed along to cover it, which can be easily done, as he shows by illustrations. The flap can be cut in single horseshoe shape, or double, rectangular on both sides of the gap, the two flaps sutured together in the center. He has performed 17 double operations of the kind and 7 with single flaps, on 24 dogs, and the rapid regeneration of bone soon healed over the defect, the results surpassing, he asserts anything of the kind observed with other technics.

Fortschritte der Medizin, Leipsic

January 13, XXVIII, No. 2, pp. 33-64

67 Operative Treatment of Puerperal Thrombophlebitis. (Operative Behandlung der Thrombophlebitis septica im Wochenbett.) Osterloh.

68 Facial Paralysis after Extraction of Teeth. (Zahnextraktion und Fazialislähmung.) D. G. Zesas.

69 Improved Technic for Ehrlich's Dimethylaminobenzaldehyd Reaction. E. Münzer.

Jahrbuch für Kinderheilkunde, Berlin

January, LXXI, No. 1, pp. 1-122

70 *Importance of Mineral Salts in Malnutrition in Infants. (Bedeutung der Mineralsalze bei den Ernährungsstörungen des Säuglings.) L. F. Meyer.

71 Percussion of Spine in Diagnosis of Tracheobronchial Tuberculous Glands in Children. (Verwertung der Wirbelsäulenperkussion bei der Diagnose der Tracheo-Bronchialdrüsentuberkulose im Kindesalter.) M. Michalowicz.

72 Favorable Influence of Serotherapy on Course and Mortality of Scarlet Fever. (Einfluss des Moserschen Serums auf dem Verlauf und die Mortalität des Scharlachs.) S. J. Fedinski.

73 *Later Fate of 28 Children with Chorea. (Nachuntersuchung nach 15-20 Jahren in 28 Fällen von Chorea minor.) G. Forssner.

70. **Metabolism of Mineral Salts and Malnutrition in Infants.**—Meyer discusses the importance of the mineral salts for the vital processes, emphasizing the fact that while plants seem to be able to dispense with sodium, it is indispensable for animals. It may possibly be necessary for the rapid processes of contraction in the action of the heart and respiration which are one of the main points of difference between animals and plants. The article issues from Finkelstein's service at Berlin and states that extensive research has confirmed the different action of the various salts; it seems to be a specific ion action. Sodium induces an accumulation of water so that the weight increases under its influence, while potassium and calcium either have no influence in this line or reduce the weight. The various salts also act differently on the temperature; sodium chlorid, bromid and iodid, by the mouth, send up the temperature after from two to four hours, reaching its acme about the sixth hour and gradually declining between the twelfth and twenty-fourth hours. The calcium salts seem to reduce the temperature; some of them may even be responsible for collapse. What has already been learned in regard to the metabolism of the mineral elements and nutritional disturbances opens new perspectives, he says, in regard to rachitis and tetany in children, the origin of fever and treatment of nephritis. Finkelstein classifies the disturbances in infants for which the food is responsible into the two great classes, "alimentary intoxication" and "alimentary decomposition," and he urges the adoption of these or similar terms in order to insure a uniform nomenclature to facilitate study of the problems involved. During alimentary decomposition and the disturbances which lead up to it, fats form soaps with the alkalies and an excessive proportion of mineral salts is eliminated in the "fat-soap stools." An exclusive starch diet also seems to be accompanied by a loss of salts, especially chlorids and sodium. No chlorids were found in the urine on a starch diet, not even for several days after being fed salt, showing the salt starvation from which they had been suffering and the avidity with which the salt was taken up by the tissues. This salt starvation must prevent secretion of normal gastric juice, which in turn prevents proper digestion of the food. The only means to arrest this waste of alkaline elements and malnutrition is to change at once to breast milk, which gradually rights conditions. The beneficial action of breast milk seems to be the property of the whey.

73. **Later Fate of 28 Children with Chorea.**—A previous article by Forssner on the later history of a number of children with acute articular rheumatism, heart disease and chorea, examined from 15 to 22 years later was summarized in THE JOURNAL, Aug. 28, 1909, page 754. He here discusses the present status of the 28 children with chorea minor, the ultimate findings suggesting that chorea attacks preferably children of weakly constitution. Out of the 23 children who lived to the age of 15, not less than 14 now present some chronic constitutional disease, tuberculosis, exophthalmic goiter, nephritis or some serious stomach affection, none a complication of the chorea. In 5 cases there are signs of pronounced heart disease and 7 of the children succumbed early to some cardiac lesion. On the other hand, among 35 children with articular rheumatism, only 4 have developed constitutional disease; 7 have died from heart disease and 3 from an intercurrent infection, but 21 are in good health, which is the case with only 1 of the 28 children who had chorea. Heart disease developed in 17 of this group. He summarizes the details; most of the children were under 10 at the time of their chorea. Only one child had reached the age of 14 and this patient is the one still in good health 22 years later, notwithstanding a recurrence of the chorea and an attack of acute rheumatism a year later. In 3 of the cases reported the chorea developed immediately after scarlet fever, pleurisy or hemorrhagic purpura.

Medizinische Klinik, Berlin

January 16, VI, No. 3, pp. 85-126

74 *Diagnosis of Pancreatic Disease. (Diagnostik der Pankreaserkrankungen.) C. Klieneberger.

75 Recent Hamburg Diphtheria Epidemic. III. H. Much.

76 Early Operation Advisable in Appendicitis in Wage-Earners. (Das soziale Moment der Frühoperation bei Appendicitis acuta des Arbeiters.) Esau.

77 Periodic Indicanuria in Manic-Depressive Insanity. F. Taubert.

78 Bacteriologic Findings in Certain Gastrointestinal Disturbances. (Einige bakteriologische Befunde bei Magen-Darmerkrankungen.) R. Latzel.

79 *Etiology and Treatment of Arteriosclerosis. M. Herz.

74. **Diagnosis of Pancreatic Disease.**—Klieneberger's article is addressed to the general practitioner and urges the importance of early differentiation of disturbances in pancreas functioning. In the first place the urine must be examined repeatedly for sugar and especially the tolerance for carbohydrates should be tested after a test dose of 100 gm. glucose. The stool should be examined for muscle fibers and fat, and it may also be useful to test whether the general condition improves materially under ingestion of a pancreatic ferment. Further aids in differentiation are the Sahli and Schmidt tests and examination of the stool with the casein method for the presence of a tryptic ferment. The Sahli test is the ingestion of a capsule, made of gelatin hardened in formalin, which is supposed to be dissolved only by the pancreatic juice in the intestine. The capsule is filled with iodin or methylene blue or salicylic acid, refound in the saliva or the urine. The Schmidt muscle-nucleus test is the ingestion of cubes of meat tied up in a little bag of gauze. The absence of the digestion of the nuclei in the muscle fibers in the bag speaks for lacking pancreatic digestion. The casein test for trypsin is simple and exact: 10 c.c. of the filtrate of the stool previously diluted with 3 parts of a 1 per thousand soda solution is mixed with 100 c.c. of a 0.5 per thousand solution of casein. The mixture is kept at 37 C. (98.6 F.) and examined from time to time for the presence of caseose by testing a portion with 1 per cent. acetic acid. The other tests for pancreas functioning, the Cammidge reaction, etc., are scarcely to be recommended to the general practitioner.

79. **Worry and Ambition as Cause of Arteriosclerosis.**—Herz states that he is becoming more and more impressed with the fact that his patients with arteriosclerosis are almost invariably those who take life too seriously and either from ambition or exalted sense of duty lead an especially strenuous life. His arteriosclerotic patients seldom include the carefree, self-centered people who enjoy life from day to day, without worrying. These seem to escape arteriosclerosis unless they acquire it indirectly by the syphilis route. He regards all this as an important guide for treatment and especially for prophylaxis of arteriosclerosis. By emphasizing more than ever the dangers of worry and undue strenuousness, and urging patients to take greater advantage of the sunshine of life and to refrain from a too serious view of responsibilities and care for the morrow, he is convinced that much arteriosclerosis can be warded off.

Monatsschrift für Kinderheilkunde, Berlin

November, VIII, No. 8, pp. 449-512

80 Spinal Ganglia in Children. (Spinalganglien im Kindesalter.) J. Zappert.

81 Elimination of Milk-Sugar after Subcutaneous Injection (Versuche über Milchzuckerausscheidung nach subkutanen Injektionen.) J. L. Leopold and A. von Reuss.

82 Taking on of Fat with Natural and Artificial Feeding. (Ansatz bei natürlicher und künstlicher Ernährung.) A. Orgler.

83 Determination of Acidosis in Infants with Digestive Disturbances. (Ueber den milkrochemischen Nachweis der Azidose bei Ernährungsstörungen des Säuglings.) G. Koch.

84 Indifferent Experiences with Carrot Soup in Infants' Digestive Disturbances. (Zur Behandlung akuter Ernährungsstörungen bei Säuglingen mit Karottensuppe.) M. Klotz.
85 No Connection Demonstrable between Eczema in Infants and Retention of Salt. (Mineralstoffwechsel und Säuglingsekzem.) A. W. Bruck.

Münchener medizinische Wochenschrift

January 18, LVII, No. 3, pp. 113-168

86 *Infant Mortality at Birth and Means to Reduce it. (Kindersterblichkeit unter der Geburt und ihre Bekämpfung.) L. Seitz.
87 Transformation of Human Tubercle Bacilli into the Bovine Type. (Umwandlung vom Menschen stammender Tuberkelbazillen des Typus humanus in solche des Typus bovinus.) A. Eber.
88 *Cure of Old Abscess in Lung by Surgical Pneumothorax. (Fall von seit 6 Jahren bestehendem durch künstlichen Pneumothorax behandeltem Lungenabszess.) C. Forlanini.
89 *Prophylaxis of Typhoid in Institutions. (Zur Bekämpfung und Prophylaxe des endemischen Typhus besonders in Internaten.) W. Eccard.
90 Operations on Tonsils and Disturbances in Speech. (Rachenmandeloperationen und Sprachstörungen.) Nadoleczny.
91 Tubercle Bacilli from Swallowed Sputum in Stool. F. Klose.
92 Ascites in New-Born Infant. Recovery under Repeated Tapping. P. Sittler.
93 *Intravenous Anesthesia. (Zur Frage der intravenösen Narkose.) P. Janssen.
94 Tuberculosis Mortality in Munich. (Zur Statistik der Tuberkulosesterblichkeit in München.) J. Weigl.
95 *Pessary Treatment of Anal Fissure. (Aus der Praxis.) Heidenhain.
96 Surgical-Orthopedic Treatment of Spinal Infantile Paralysis. (Behandlung der spinalen Kinderlähmung.) Machol.

86. Reduction of Infant Mortality at Birth.—Seitz has been investigating the causes of the fetal mortality among the 50,000 maternity cases at the Munich clinic in the last forty years. He found that in only 20 per cent. was the mortality due to the small size of the pelvis; in 5 per cent. disease or deformity was responsible, and in 10 per cent. unfavorable presentation, etc. But in 65 per cent. the cause of the fetal mortality was essentially the insufficiently dilated soft parts, either abnormal narrowness and rigidity of the os or vagina, or, with normal soft parts, some complication requiring immediate delivery. This includes the cases of placenta prævia, eclampsia, prolapse of the cord and oblique presentation. From study of this material he draws the conclusions that many more children could be saved by the more frequent application of forceps in institutions. Comparison of the statistics from hospitals with frequent obstetric operations with others where there is less interference, shows that a large number of children succumb to asphyxia that might have been saved by earlier use of forceps. In the clinics recording numerous operations the pure asphyxia deaths are extremely rare. In general practice the indications are less frequent; he calculates that the possibility of danger for the child from primary obstruction from the soft parts is encountered with multiparæ only one-fourth as often as with primiparæ. When the fetal heart sounds become slower, this is a certain sign of serious danger but acceleration of the heart sounds has no such significance. When the second stage of labor is unduly prolonged the interests of the child may indicate forceps, especially when the position of the fetus interferes with the control of the heart sounds. In the last two years he has been able to reduce the total fetal mortality by 10 per cent.—down to 19.4 per cent.—especially with placenta prævia, by delivering the woman at once by vaginal hysterotomy. The undilated os is responsible for the fatality in half of all the deaths from prolapse of the cord and oblique presentation. By vaginal hysterotomy it is possible to reduce this mortality by fully 20 per cent. The fetal mortality in the last 5,000 deliveries has been 2.28 per cent., which is still far too high in comparison with the fetal mortality of only 3.9 per cent. in 21,800 births at the clinic between 1859 and 1882. He is convinced that more frequent use of forceps and of vaginal hysterotomy may reduce the mortality to 1 per cent.

88. Surgical Pneumothorax for Abscess of the Lung.—Forlanini reports a case in which an abscess in the lung, developing after croupous pneumonia, had persisted for six years, rebellious to all measures. It was then cured in a few months by compression and immobilization of the lung by injection of nitrogen. The cure has persisted for three years to date. This case in addition to his other experience confirms the advantages of frequently repeated small injections, so as to keep up the immobilization unchanged. His experience has also shown that after the artificial pneumothorax has accomplished its purpose, in the absence of tuberculosis or with healed lesions, the pleura is able to resume its functioning undisturbed. In one of his cases the pneumothorax dates from April, 1902, and the tuberculous process rapidly healed but he still maintains the pneumothorax, having kept up the injections of nitrogen during the eight years to date.

89. Prophylaxis of Typhoid in Institutions.—Eccard has been able to stamp out endemic typhoid in an asylum by search for the bacillus carriers and measures to render them harmless. He found eight, all insane women, and he enforced special hygienic measures to combat uncleanly habits. Two nurses were entrusted with the care of these eight carriers who were isolated, kept in bed as much as possible, trained to defecate at regular hours, after which the anal and vaginal regions were cleansed by the nurse with cotton dipped in a disinfectant or a disinfecting compress was worn permanently. The hands, the nails, and the service at meals are also in the nurses' charge. By this combination of hygienic measures and keeping the patients isolated in bed as if they were very ill, the danger of dissemination of bacilli is materially reduced.

93. Intravenous Anesthesia.—Janssen refers to Burkhardt's announcement in regard to intravenous anesthesia mentioned in THE JOURNAL, Jan. 8, 1910, p. 169, and states that he has been conducting extensive research in this line, using various anesthetics and technics. Theoretically it is an ideal method, especially when the anesthetic can be instilled into the vein a drop at a time as he succeeded in accomplishing. But the death of one of the dogs from embolism in the lung revealed the dangers of this method which he has now entirely abandoned.

95. Non-Operative Treatment of Anal Fissure.—Heidenhain has cured two patients by introducing into the anus a hard rubber hemorrhoid pessary for an hour or two. Either there is no pain or the pain rapidly subsides; in from ten to fourteen days healing is complete. Laxatives are given to insure soft, regular stools.

Wiener klinische Wochenschrift, Vienna

January 20, XXIII, No. 3, pp. 85-118

97 *Operative Treatment of Injury of the Meniscus in the Knee. (Verletzungen der Bandscheiben des Kniegelenkes.) H. Schloffer.
98 *Treatment of Placenta Prævia. J. Richter.
99 Experimental Research on Acute Anterior Poliomyelitis. II. C. Leiner and R. v. Wiesner.
100 Individual Strains of Colon Bacilli in Children. (Die individuelle Koliflora im Kindesalter.) L. Jehle and M. Pincherle.
101 Putrefactive Properties of Normal Infant Stools. (Studien über Darmfäulnis.) A. Rodella.

97. Operative Treatment of Meniscus Disturbances.—Schloffer reports the ultimate outcome in 28 cases of old injury of the meniscus of the knee including 16 cases of loss of substance, 2 with tearing out from the tibia and 1 from the capsule, 6 with chronic inflammation of the meniscus and 3 with merely abnormal movability. He removed the meniscus in 23 cases and in 3 the immediate results were extremely favorable but the patients have not been seen since. In 16 of the remaining 20 very favorable results were obtained and in only 2 cases was the outcome unfavorable. In another the affection was of tuberculous origin. Functional capacity was regained although in no instance was it quite normal. The removal of the meniscus prevents further injury but does not cure that already existing although the functioning is perfect enough for all practical purposes. Kneeling is still difficult. He prefers to expose the meniscus with an incision around the patella and leaves a little gap in the suture to permit escape of secretions, but does not drain otherwise.

98. Treatment of Placenta Prævia.—Richter has analyzed the 467 cases of placenta prævia at Schauta's clinic since 1892 to determine if Cesarean section would have given better results than the technic followed. Out of the whole number there was not a single case in which it could have been applied. It is contraindicated when the woman has been examined before entering the institution and thus possibly infected, if she has lost too much blood, and also if the child is not at term and viable.

Zentralblatt für Chirurgie, Leipsic

January 15, XXXVII, No. 3, pp. 73-112

102 *Improved Iodin Sterilization of Field of Operation. (Modifizierung der Hautdesinfektion des Operationsfeldes nach Grossich.) A. Bogdan.

103 Provision of Sterile Water for Hospitals. (Beschaffung sterilen Wassers für Krankenhäuser.) M. Heldenhain.

102. Improved Iodin Sterilization of the Field of Operation.—Bogdan urges more general adoption of the simple and effectual method of sterilizing the field of operation with tincture of iodin. He has modified the technic somewhat by cleansing the field beforehand with 1 per 1,000 iodized benzin. This takes the place of the usual scrubbing with soap, while it is a relief to feel that the field has been prepared for the tincture of iodin. He has applied this technic in 800 cases; the operator himself does or supervises the sterilization, which is complete in four or five minutes as the benzin evaporates so rapidly. He applies the benzin for one or two minutes, mopping with two or three wads of cotton. The tincture of iodin is applied with a small wad of cotton with which he first presses down the skin to form a depression into which the tincture is poured and then mopped over the desired area. He repeats this several times, keeping the skin moist with the tincture for a few minutes to allow it to sink well into the pores.

Zentralblatt für Gynäkologie, Leipsic

January 15, XXXIV, No. 3, pp. 65-96

104 *Justification of Pubiotomy. (Berechtigung der Hebosteotomie.) K. Reifferscheid.

105 Operations for Deformities of Female Genitalia. (Operationen bei Bildungsfehlern der weiblichen Genitalien.) Puppel.

106 Disadvantages of Obstetric Vaginal Douches. (Akute Lysolvergiftung durch vaginale Irrigation und der therapeutische Wert der Irrigationen überhaupt.) A. Chvojka.

104. Pubiotomy.—Reifferscheid reports the ultimate outcome of pubiotomy in 36 cases with later childbirth in 9. In one case the pubiotomy was repeated twice, but a third child was delivered without further intervention. One woman succumbed to pulmonary embolism; the children were all delivered alive, except in one case in which the operation came too late. Slight fever was noticed in 7 cases and high in 1 case from slight suppuration in the incision. No threatening hemorrhage occurred in any instance. He states that his experience impels him to commend the operation as enabling prolonged expectant treatment; its special field is in all cases of moderately contracted pelvis up to a true conjugate of 7.5 cm. in multiparæ. With a diameter less than this, extraperitoneal Cesarean section is preferable.

Gazzetta degli Ospedali e delle Cliniche, Milan

January 16, XXXI, No. 7, pp. 65-80

107 Encouraging Serotherapy of Mediterranean Fever. L. Morpurgo.

January 18, No. 8, pp. 81-88

108 *Hypertrophy of Trabeculæ in Bladder Early Sign of Tabes. (Vescica a colonne nei tabici e sua importanza diagnostica.) C. Rinaldo.

January 20, No. 9, pp. 89-96

109 *Visceral Equivalents in Epilepsy. (Equivalente viscerale in un caso di epilessia da cerebropatia.) G. Vidoni.

108. Hypertrophy of the Trabeculæ in Bladder as Early Sign of Tabes.—THE JOURNAL, Jan. 30, 1909, summarized Böhme's article calling attention to the hypertrophy of the bladder wall as an early sign of tabes, the bladder seeking to compensate by extra muscular effort for the difficulty in voiding its contents. Rinaldo here reports a case which confirms the diagnostic importance of this finding. His patient was a man of 48 with some retention of urine for which no mechanical cause could be discovered. There was no history of syphilis or trace of syphilitic infection; the pupil and tendon reflexes were normal and the Romberg, Westphal and Babinsky tests were negative but the patient had suffered for a few years with pains in the legs supposed to be of rheumatoid nature, and there had also been transient diplopia at one time and vertigo. The cystoscope showed the trabeculæ in the bladder much enlarged and the Wassermann test elicited a positive response, confirming the presumptive diagnosis of tabes. After ineffectual local medication, he relieved the patient with suprapubic cystostomy, supplemented by application of electricity, and some benefit seems to have been realized, the bladder mucosa apparently having regained sensibility to a slight extent, as the patient now perceives the desire to urinate.

109. Epileptic Equivalents in the Viscera.—This is the explanation offered by Vidoni for certain attacks observed in a woman of 39 who had been healthy until the age of 31. She then developed apoplexy followed by motor aphasia, right hemiplegia, and occasional epileptiform seizures. During the menstrual periods she is liable to present an epileptic equivalent consisting in sudden cyanosis with loss of consciousness, stertorous breathing and signs of acute edema of the lung. After about 20 minutes the seizure subsides and the patient expectorates large amounts of a blood-stained serous sputum; but she rouses with delirium, intelligence only gradually returns in the course of 24 hours. The circulatory and respiratory equivalent for the classic epileptic seizure in this case confirms the fact that disturbances may occur in the vegetative sphere as well as in the psychic functions as part of the epilepsy syndrome.

Policlinico, Rome

January 23, XVI, No. 4, pp. 99-130

110 *Ocular Crises in Tabes. (Tabes superior con crisi oculari.) A. Piazza.

110. Tabes with Ocular Crises.—The patient in the case reported was a man of 31 whose father at the age of 20 acquired syphilis followed by the loss of the right eye which was enucleated. At the age of 60 the other eye became blind. The mother and brothers and sisters are robust. The son acquired syphilis likewise at 20 but took a brief course of mercurial pills at the time and annually for a few years. At the age of 28 he complained of intense pain at times in the depths of the orbit, the attacks coming on suddenly; soon after their onset vision gradually declined in one eye. The lancinating pains in the eyes were accompanied by transient congestion, lachrymation and photophobia. There were intervals of comparative improvement in vision but the condition grew worse at each attack. Exclusion of all other causes confirmed the diagnosis of tabes, sustained further by the abducens paralysis noted, the Argyll-Robertson sign and the progressive atrophy of the optic nerve. The great peril in these cases of tabetic amaurosis seems to be the liability to progressive general paralysis observed in some cases on record. Mercurial treatment after the onset of the ocular crises induced marked aggravation of symptoms in this case as also in 3 cases of tabes previously reported by this writer. No benefit was derived from pilocarpin or other measures. Treatment henceforth can be only symptomatic in this case.

Riforma Medica, Rome

December 20, XXV, No. 51, pp. 1401-1428

111 Transmission of Vibrations in Chest in Pathologic Conditions. (Di alcune particolarita della trasmissione sul torace delle vibrazioni respiratorie in condizioni patologiche.) S. Livierato.

112 Two Cases of Dilatation of Saphenous Vein at Junction with Femoral Vein. (Dilatazione sacciforme della safena presso il suo sbocco nelle vena femorale.) C. Mantelli.

Hospitalstidende, Copenhagen

January 5, LIII, No. 1, pp. 1-40

113 *Transplantation of Patient's Fibula in Place of Upper Two-Thirds of Humerus. (Tilfælde af fri Knogletransplantation til Erstatning af Overarmens øverste to Trediedele ved Hjælp af Patientens Fibula.) T. Rovsing.

113. Transplantation of Fibula into Shoulder and Upper Arm.—Rovsing's patient was a mechanic, aged 26, whose shoulder met with a comparatively slight accident, followed by swelling and pain. The assumed hemorrhagic effusion in the shoulder was treated with massage and passive movements through four months but the persistence of disturbances led to Roentgen examination which revealed a morbid process and new growth in the head and neck of the humerus. The Wassermann test gave negative findings and the proliferation of bone was accepted as excluding tuberculosis. It proved to be an osteosarcoma. As sarcoma seems to spread mostly towards the periphery, and as the process was restricted to the humerus alone, Rovsing anticipated a radical cure by resection of the upper two-thirds of the bone with the attached ends of muscles and fascia, leaving the rest of the soft parts undisturbed. This was done and the missing bone

replaced by a corresponding part of the patient's own fibula; the head of the fibula was made to articulate with the glenoid cavity while the lower end of the bone was implanted deep in the marrow part of the remaining third of the humerus. Now, two months after the operation, the patient is able to use his arm to feed himself and even to brush his hair while the movements of the forearm are practically normal. His earning capacity is restored for light work and his general health leaves nothing to be desired. The loss of the fibula does not affect his gait and the leg does not seem weaker than its mate to date. The case confirms the possibility of free transplantation of bone for various purposes provided that the bone is freshly removed, still enclosed in its periosteum, and derived from a healthy human being, and that the new bone can be effectually adapted to what is left of the old. The article is accompanied by several illustrations including skiagraphs.

Hygiea, Stockholm

December, LXXI, No. 12, pp. 1249-1376

114 Surgery of Heart, with Report of Case of Firearm Wound. (Fall af skottskada å hjärtat.) E. Key and H. Liden.

115 *Thrombophlebitis of the Orbit After Syringing out the Lacrimal Sac. (Thrombo-phlebitis orbitæ efter tårsäcksköljning.) G. Lamm.

115. Thrombophlebitis of the Orbit After Attempts to Sterilize the Lacrimal Sac.—Lamm's case is the tenth he has found on record. The case histories emphasize the danger for the eye of any infection in the lacrimal sac. Total blindness resulted in 7 of the 10 cases, with a fatal termination to the infection in 1 case. Schwendt found amaurosis in nearly 80 per cent. of 49 cases of phlegmon of the orbit in the literature. Lamm gives a number of rules to be borne in mind in treating affections of the lacrimal passages in order to refrain from spreading the disease.

Ugeskrift for Læger, Copenhagen

December 30, LXXI, No. 52, pp. 1437-1448

116 **Advantages of Potassium Permanganate Method for Municipal Disinfection.** (Lidt om Desinfektion of Bolgær.) Struckmann.

January 6, LXXII, No. 1, pp. 1-28

117 *Dietetic Treatment of Nephritis. A. Fløystrup.

January 13, No. 2, pp. 29-58

118 *Diagnosis of Gastric Cancer. (Om Diagnosen af Cancer ventriculi.) Kramer-Petersen.

117. Dietetic Treatment of Nephritis.—Fløystrup expatiates on the great importance of recent acquisitions in medical science in respect to the elements that favor nephritis. It is evident that the dietetic regulations must be different according as the nephritis is acute or chronic parenchymatous or chronic interstitial nephritis. These three main groups of nephritis differ in their pathologic anatomy, the functional capacity of the kidneys and the treatment required, but the difference is most marked, perhaps, in regard to the diet indicated in each. Experience has demonstrated that uremia is most liable with interstitial nephritis, contracted kidney, while dropsy is most liable to accompany the parenchymatous form. The development of uremia is promoted by ingestion of albumin while dropsy is promoted by ingestion of salt. The indications therefore with interstitial nephritis are to restrict as much as possible ingestion of meat, eggs and albuminous substances in general, while with parenchymatous nephritis all that is necessary in this line is to limit the intake of salt. In acute nephritis there is a tendency to both parenchymatous and interstitial disturbances, and consequently the diet should exclude both albuminous substances and salt. Milk is useful on this account, but he warns expressly that a strict milk diet is injurious if kept up for more than 6 or 8 days at longest. It may also prove useful in the acute exacerbations observed in the course of chronic nephritis, but it must be borne in mind that it represents always undernutrition which cannot be relied on for more than a brief period to tide the patient past some acute phase.

118. Diagnosis of Gastric Cancer.—Petersen comments on the difference in the symptoms presented when the cancer is at the pylorus, the cardia or between these points. When at the pylorus the most striking symptoms are the cramps and stiffening of the stomach walls, evidences of retention in the fasting stomach and occult hemorrhage. When the cancer is at the cardia there are disturbances in swallowing and the stomach sound clears up the diagnosis. When the cancer is located elsewhere than at these two points there is generally occult hemorrhage, and microscopic examination of the content from the fasting stomach reveals large numbers of blood corpuscles and tumor particles. Salomon's test also gives positive findings as also the tests for the presence of ferments. The main point in the diagnosis of cancer is that the general practitioner thinks of its possibility when confronted with a case of gastric disturbances. In Petersen's 60 cases slight hematemesis was observed in only 2 instances and melena in 2—thus in only 7 per cent. Chronic constipation was the rule in all but 3 of the patients. Long-continued constipation with loss of appetite and flesh suggest cancer without other signs. His patients were between 34 and 79, and he failed to diagnose the malignant disease in the youngest patient, although the pains, fever, and loss of 30 pounds in weight in three months might have suggested the true diagnosis. Colic two years before had been ascribed to lead poisoning. The appetite was persistently good, bowel functioning was normal, there was no glandular enlargement and nothing could be palpated although pressure at the cardia revealed slight tenderness. The Bourget test for the motor functioning gave negative findings and after an Ewald test meal no free hydrochloric acid, lab ferment or pepsin could be found. There was no hematemesis but the test for blood was positive and operation revealed malignant disease. The first symptoms of abdominal pain and fever had been observed only two months before. The colics diagnosed as due to lead poisoning had occurred several years before and during the interval since the patient was in good health. In another case Petersen's diagnosis of cancer proved to be erroneous. This patient was a man of 54 with pains in the epigastrium for three months, occasional vomiting and diarrhea. He digested light food without apparent trouble; there was no gastric hemorrhage; but he had lost considerably in weight. A tumor as large as a hen's egg could be palpated on the umbilical line to the right of the median line, movable, not tender. The Bourget test for motor functioning gave positive findings at one time but later it was negative. There was no free hydrochloric acid and no blood in the stomach content or stool but lactic acid was present in the stomach. Operation for the supposed cancer disclosed merely a large ileocecal invagination, no malignant disease, and the patient has been in good health since the resection of the invaginated portion of intestine.

Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

TRANSACTIONS OF THE NATIONAL ASSOCIATION FOR THE STUDY OF EPILEPSY AND THE CARE AND TREATMENT OF EPILEPTICS. William P. Spratling, M.D., Baltimore, Permanent Editor, and J. F. Munson, M.D., Sonyea, N. Y., Associate Editor. Eighth Annual Meeting, Indianapolis, Nov. 10, 1908. Vol. VI. Paper. Pp. 149. 1909.

THE CATTLE TRADE OF WESTERN CANADA. Special Report by J. G. Rutherford, Veterinary Director, General and Live Stock Commissioner. Dominion of Canada Department of Agriculture Branch of Live Stock Commissioner. Paper. Pp. 23. Published by direction of the Hon. Sydney A. Fisher, Minister of Agriculture, Ottawa, Ont., 1909.

A PRACTICAL GUIDE TO THE ADMINISTRATION OF ANESTHETICS. By R. J. Probyn-Williams, M.D., Senior Anesthestist and Instructor in Anesthetics at the London Hospital. Cloth. Pp. 228, with 44 illustrations. Price, $1.60. Second Edition. New York: Longmans, Green & Co., 1909.

THE OXIDASES AND OTHER OXYGEN-CATALYSTS CONCERNED IN BIOLOGICAL OXIDATIONS. Hygienic Laboratory Bulletin No. 59, P. H. and M.-H. Service. By J. H. Kastle. Paper. Pp. 164. Washington: [Superintendent of Documents], Government Printing Office. 1910.

AN ENGLISH HANDBOOK TO THE PARIS MEDICAL SCHOOL. By A. A. Warden, M.D., Visiting Physician to the Hertford British Hospital, Paris. Paper. Pp. 52. Second Edition. Price, 2 shillings. Philadelphia: P. Blakiston's Son & Co., 1910.

ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF MARYLAND FOR THE YEAR ENDING DECEMBER 31, 1907. [Dr. M. L. Price, Secretary, Baltimore.] Paper. Pp. 234, with illustrations. Baltimore, 1910.

THE QUEST. By Thomas A. Stoddard. Cloth. Pp. 167, with illustrations. Price, $1.50. New York: Cochrane Publishing Co., 1909.

REGULATIONS RELATING TO ANIMALS' QUARANTINE, 1909. Authorized by Canadian Department of Agriculture, Ottawa, Ont., Nov. 30, 1909. Paper. Pp. 27.